

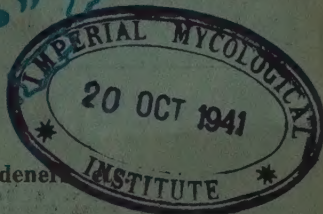
# THE FRUIT WORLD

## "Market & Grower"

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Throughout Australia, New Zealand and abroad.

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Vol. XLII. No. 8

AUGUST 5th, 1941

Price 6d.

### Special Articles This Month

Budding, Grafting, Reworking  
Fruit Trees

Murrumbidgee Irrigation Areas

Stationary Spray Plants

Goulburn Valley News & Notes

Northern Victoria Fruitgrowers  
Association, (Annual Meeting)

Fertility in Orchard Soils

Seasonable Orchard Notes

South Australian News & Notes

Potato Crop Competitions

Dried, Canned and Citrus Fruits

Pig and Poultry Notes

Apple and Pear Acquisition

Market Garden Notes

Tasmanian News and Notes

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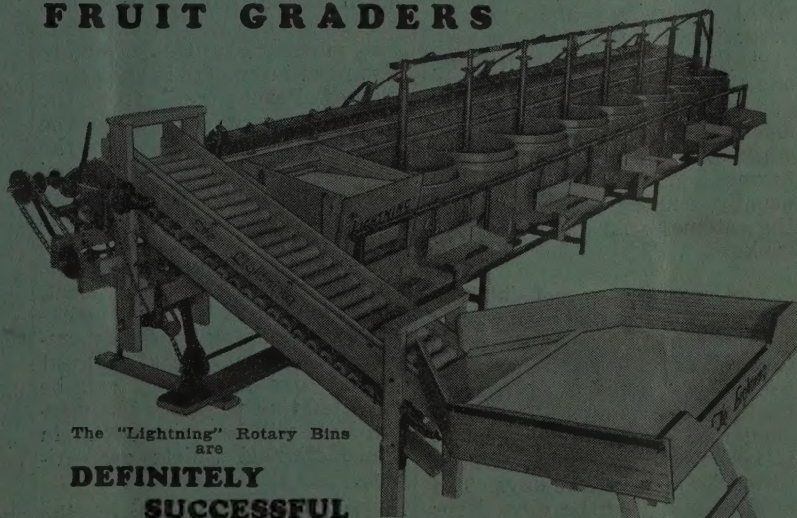
Bins fill and lower automatic-  
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also friction drive.

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SUCCESSFUL**

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which enables fruit to rise per-  
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with centre high crown of  
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are enclosed so the fruit can-  
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at bin top level.

SPECIAL SORTING ELEVA-  
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prevents stems being chopped  
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## Carrot Seed Shortage

N.S.W. Agricultural Department Recommends  
Local Seed Production

**A** SEVERE SHORTAGE of Carrot seed in N.S.W. is forecast by Mr. W. Whan, experimentalist of the N.S.W. Department of Agriculture.

The popular Chantenay and Manchester Table varieties are stated to be the main lines affected.

Mr. Whan states that the cause of the shortage is the failure of the Carrot seed crops in U.S.A. In addition, last season's local seed crops, because of unfavorable conditions, did not greatly help in relieving the position.

"Vegetable growers who have Carrot crops on their farms at present would be well advised to select roots of desirable type for seed production in the Spring," Mr. Whan said. "Those who regularly grow a small area of Carrots should select roots of the ideal type of the varieties they are growing, and transplant these for the purpose of producing seed in the late Spring and early Summer."

Coastal growers desirous of producing sufficient seed for their own requirements would be well advised to select roots that are uniform in varietal characteristics and transplant these into prepared ground immediately they have trimmed off the older leaves.

"Tableland and western growers could quite satisfactorily practise Carrot seed production on a commercial scale," Mr. Whan said, "as they are more favorably suited climatically than the coastal grower for this phase of growing. In these areas, however, the roots, after selection, should be lifted, topped and pitted until the coldest period of the Winter has passed, when they may be planted out into well prepared ground."

"One thing growers must make sure of," Mr. Whan added,

"is that only one variety is allowed to go to seed on the farm at any one period. This is necessary, because of the fact that Carrots cross-pollinate very readily. Care should also be taken to see that no weeds, such as Wild Carrot, are growing in close proximity to the area where it is intended producing seed, as cross-pollination with disastrous results can be the only outcome."

### TOMATO CULTURE.

#### Checking the Spread of Canker.

As the result of a Bacterial Canker many Tomato vines had been weakened, and there was poor setting and much unmarketable fruit. The Victorian Dept. of Agriculture has issued a warning concerning the seriousness of the disease. They state that the earliest symptoms appear on the lower leaves, with browning and wilting occurring as the disease progresses up the stem. Generally, one side of the plant it attacked, and, usually, the leaflets on one side are shrivelled and brown, while on the other side they are normal. Affected shoots are usually stunted and frequently the stems split and develop cankers.

The organism responsible for the disease is carried both within and on the surface of the seed. Control measures, therefore, consist of saving seed from a healthy crop only. The seed should be extracted by fermentation with the pulp without water for at least two days. The seed should then be dipped for five minutes in mercuric chloride at the rate of  $\frac{1}{4}$  oz. to five gallons of water. The seed must then be washed for ten minutes in running water. Infected soil should not be replanted with Tomatoes for at least two years.

### VEGETABLE GROWERS' ASSOCIATION OF VICTORIA.

#### Election of Office Bearers.

Mr. H. V. Barnett has been elected President of the Vegetable Growers' Association. Other office-bearers: Vice-Presidents, Cr. E. A. Le Page and Mr. G. Ryan; Secretary and Treasurer, Mr. C. C. A. George; Committee, Messrs. J. Stock, J. Mills, H. Besant, C. Corrigan and T. Marriott.

### YOUNG FARMERS.

#### Movement Spreads Throughout Australia and New Zealand.

The Young Farmers' Club Movement has spread rapidly throughout Australia and New Zealand.

Reports from Club and Supervisors tell of activities in all branches of primary production.

In Victoria the pasture plots of the Ravenswood Young Farmers' Club are looking well, the strike of new seed being excellent. The season has opened much better than the last, and keener studies can be expected. The members of this Club are also most interested in the growing of Peach trees from the stones; they have adopted the project as outlined by the Grahamvale Young Farmers' Club, which has a nursery in which most practical work is being carried on. The Grahamvale project is much the same as that at Shepparton East, where the first strike of trees with the budding done by members has been sold at a most satisfactory figure. It can be expected that this year Shepparton East will be a competitor in the McDonald Shield competition.

The poultry project of the new Young Farmers' Club at Fryerstown is one of keen interest locally. In well constructed pens which reveal the real interest of the parents and district residents, White Leghorns and Australorps are

laying well. This pen has been built simply. With a deep litter the birds will be managed on the intensive system. To facilitate the management they are fed grain first thing each morning and prepared wet mash each evening. With the birds laying a good-sized egg and with the interest spreading, arrangements are being made to purchase an Australorp cock bird to commence the breeding season.

We would like to devote more space to the Young Farmer Movement throughout Australia and New Zealand.

Will Secretaries please send reports to the Editor, "Fruit World," Box 1944, G.P.O., Melbourne.

It was decided at Shepparton to prepare an honor roll for members who had enlisted. A resolution was carried requesting increased restrictions on alien land transfer "because it will be a drab outlook if our many young farmers return from active service to find the land bought up by aliens in their absence."

### GUNS, TANKS, AND—APPLES.

America promises us guns, planes, tanks, ammunition—and food. All these are vital things, and among items of food we would like to see Apples prominently mentioned to take the place of our disappearing stocks.

The Apple is the favorite cleansing and vitalising element of food among all classes, and the health of the nation would benefit considerably by a consignment of those attractive Apples to brighten the menu of busy people.

We admit that in many ways vegetables — especially raw vegetables and salads — can perform a similar function to the Apple, but in these days of long hours and irregularity such foods cannot always be prepared in time. There is always time to eat an Apple, and it is the busiest people who need them.—(Extract from "Market Grower, Salesman, and Fruit Trader," London, April 19, 1941.)



# THE FRUIT WORLD & MARKET GROWER

ADVERTISING RATES ON APPLICATION.

Phone: M 6751 (3 lines).

Mr. W. Musgrove, who is President of the N.S.W. Chamber of Fruit and Vegetable Industries, is also a valued helper in the Apple and Pear Educational Publicity Service. Mr. Musgrove attends the schools when the Apples are being distributed. He has a pleasing and convincing manner in telling the story of Apples and health to school children. Having assisted in this work in an honorary capacity for some years, Mr. Musgrove's services are highly esteemed.



# LATE W. J. ALLEN APPRECIATED.

Pioneer Irrigationist.

The Editor, "Fruit World."  
Sir,

In the issue of July 5 is an obituary notice in regard the late Mr. W. J. Allen.

In this no reference is made re his connection with Chaffey Bros., who brought out to Australia half a dozen or more top-notch irrigationists in regards fruit culture, to assist them place Mildura and Renmark on the map and assist new settlers. Mr. Allen was one of these, one and all of whom did yeoman service to all who wished to avail themselves of their thorough knowledge of irrigation and horticulture.

Mr. W. B. Chaffey was known as the Father of the A.D.F.A.,

and every one of the men brought out did their bit by helping the settlers make good on their irrigation blocks.

Many old settlers have still a soft spot in their hearts for this gallant band, five of whom took up land in Mildura and one in Renmark.

In this respect Chaffey Bros. showed great foresight, and it is a thousand pities our State Governments, when starting somewhat similar irrigation schemes, did not follow their example, to get the very best brains obtainable, to enable settlers to get a correct start (even if one had to go out of the country to get them). The class or type of settler is blamed should an irrigation scheme not pan out well, when the blame is with the powers-that-be.

The suitability of place chosen as regards soil and ditto as to water, and what the incoming

settler can plant with a good chance to make a decent living, needs thorough investigation and thought. With a correct layout and the right men to tell settlers the correct methods to adopt, there is some hope of success for all hands. America calls these men farm advisors, whilst Australia calls them experts: the men Chaffey brought out all strongly objected to being termed "experts."

Yours faithfully,

W. E. MUSPRATT.  
Littlegrove, Queensland.

## New Nectarine

"P. Flood," Originated in Brighton. Outstanding quality and market value. Orchardists should plant this variety. I can offer well-grown trees worked from the original.

G. L. COLE

"Rosaltion" Nurseries, Tyabb, Vic.  
Phone: Tyabb 252.

## WESTERN AUSTRALIA

**EXCELLENT PUBLICITY** methods for increasing the consumption of Apples have been adopted by the W.A. Committee of the Australian Apple and Pear Marketing Board.

Following their successful Apple Week other activities included the following:—

**Treasure Chest Competition:** Five hundred obsolete keys with tags attached were dropped in all conceivable places—on the footpaths, in trams, offices, shops, buses, trains, etc. The finders were advised by the tag to take the keys to a specific place and, should it fit the Treasure Chest, they would receive, free, a case of Apples.

**Apple Recipe Contest:** The "Daily News" promoted through their columns an Apple Recipe Contest which created wide interest among women. For three best recipes submitted for the week, three cases of Apples were given. This contest resulted in many unique and palatable recipes being received. The best of these are being included in the reprint of Apple and Pear Board's Recipe Book.

**Apple Cookery Week:** A big cookery demonstration was arranged in the Perth Town Hall from June 16 to 21, and conducted by the well-known W.A. radio personality, "Phoebe," in conjunction with an expert chef loaned by Perth's most palatial hotel, the Adelphi. About 800 women attended.

All ingredients used in the cooking demonstration were donated, and, as the Town Hall was made available also free of charge, together with five gas stoves supplied by Metters Ltd., and all other equipment, the cost to the Board was negligible. The various dishes when cooked were auctioned at the termination of the demonstration and proceeds sent to the Red Cross.

## W.A. RETAILER PROSECUTED.

Mr. F. Kidd, of Kidd's Fruit Mart, Perth, was fined £2 with £3/7/6 costs on July 16 for having offered for sale Apples other than those produced by a registered grower. The Apples were poor quality Yates, and at the time of sale (May 23) no Yates Apples had been released for sale by the Board.

In commenting on this matter the State Superintendent, Mr. R. M. Carter, said the Board was determined to stop retailers from illegally purchasing Apples and Pears from growers. Growers were paid for their fruit by the Board, and those who sold direct were receiving payment twice. The co-operation of retailers was sought, especially as in this instance the quality of the fruit illegally disposed of was found to be very poor, which reflected adversely on the Board.

## As Spraying is a Necessity —then use the World's Best—

# NEPTUNE SPRAYS...

The better quality of NEPTUNE Sprays is always obvious by comparison with others. NEPTUNE Sprays conform to the highest standards, and they are consistently uniform in strength and quality. Successful Orchardists recommend them. Try them yourself and prove that they're better!

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NEPTUNE PREPARED RED  
SPRAYING OIL  
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GENUINE MACCLESFIELD  
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ARSENATE

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SNOW

GENUINE BLACK  
LEAF 40

NEPTUNE LIME  
POWDERED SULPHUR

COPPER SPRAY

NEPTUNE SPRAY  
SPREADER





# Apple and Pear Acquisition

## Evidence Before Federal Parliamentary Committee

**D**URING JULY the Parliamentary Committee which is taking evidence regarding the operations of the Apple and Pear acquisition continued taking evidence in Victoria. Evidence both for and against was given.

Mr. W. Young, President, Northern Victoria Fruit Growers' Association, said that while the acquisition scheme was not perfect he was satisfied with it and convinced that by a gradual evolutionary process it would achieve better results. He denied the allegations against the Victorian Committee contained in a letter from some exporters at a prior sitting of the Enquiry Committee.

Mr. S. P. Cornish, Secretary, Northern Victoria Fruit Growers' Association, said his organisation, comprising some 700 growers, was in complete accord with the scheme. Prices last season were reasonably satisfactory, but costs had since risen, and he requested payments sufficient to cover the higher costs. Several proposals for operating improvements were put forward. Unwanted varieties of Apples and Pears should be grubbed out or re-worked, the Commonwealth to pay an amount per tree for this work. His organisation congratulated the Commonwealth Government on bringing in the acquisition scheme, without which the industry would be in a serious plight.

Mr. E. Blackburn, whilst approving of the principle of acquisition, attacked some features of the administration.

Mr. F. C. Pyke, of Ringwood, stated that the operations of the acquisition scheme had occasioned him considerable loss. The logical remedy was not to grow a surplus. This could be achieved either by stripping trees or spraying the blossoms. He advocated a voluntary scheme by which growers could

agree not to produce if compensated. The compensation would be less than the Government had paid for the matured fruit. The transport of Apples from Tasmania and Western Australia should be forbidden; growers in those States to be suitably compensated. Probably the fairest method would be to compensate growers for not producing the proportion of their crops previously exported and leave them free to market the balance in Australia.

Evidence taken at Harcourt showed that many growers supported acquisition. A petition was lodged signed by 130 growers favoring acquisition.

Mr. H. Syme stated that a business man and not an orchardist should manage the local Committee. Mr. K. Eagle, Chairman of the Harcourt Committee, said there was no maladministration as far as local matters were concerned.

Mr. F. C. Handasyde, Warrnambool, opposed the present proposals and submitted an alternative along the following lines:—

"That growers be notified early in the Winter that the Government would purchase the surplus, excluding poor quality varieties. Owners of excluded varieties to be compensated at, say, 2/- a tree if they either re-worked or removed those trees from production. By this means possibly 1,000,000 cases would be removed from sale. In November the Government offers to purchase at a flat rate within the Commonwealth a quantity equal to the surplus, which was to be all that portion of the crop in excess of 6,500,000 cases, exclusive of excluded varieties, the 6,500,000 cases to be marketed by growers as in pre-acquisition days. Basis of purchase to be for matured fruit in the orchard. Some fruit purchased would not be of such varieties and in such localities that it

would not be economically possible to dispose of it in any way. Owners of this fruit should be willing to strip their trees for a slightly lower figure than full price paid for matured fruit. This could be done on an assessment basis. If the grower was not satisfied with his assessment he could allow his fruit to mature and receive full price.

"If the quantity submitted did not reach the surplus the Government should purchase the balance at the same figure, but only on delivery."

The surplus, which exists in any circumstances, could be disposed of by processing in various ways and gifts to various institutions as has been the practice under acquisition.

The Government would have only the surplus to handle, so could concentrate on making the best possible use of it.

At Pakenham the evidence was generally in favor of the continuance of the acquisition scheme. The Chairman of the Gippsland Fruit Marketing Association, Mr. J. J. Ahern, said his organisation comprised 84 members. Had it not been for the scheme the orchards of the district would have been rendered valueless. He suggested the Board should comprise a representative each of the export and metropolitan growers and one business man. He complained of the variation in rates paid for packing at growers' sheds and central packing sheds.

Councillor T. E. Whiteside, of Officer, said that 13 growers in his district with an annual production of 38,790 cases had signed a petition for the continuance of the Board, only one—whose production was 1,250 cases—had refused to sign.

Mr. L. Thomas, of Bunyip, said that growers in his district favored a continuance of acquisition. A State-wide hail insurance scheme should be adopted.

On Mornington Peninsula a substantial majority of growers had signed a petition favoring acquisition. Opposition to acquisition was expressed by Messrs.

A. J. Noble, of Tyabb; G. J. Brunning, Somerville; H. T. Noble, Tyabb; T. W. White, Somerville; W. C. Crow, Merriks.

Messrs. W. P. Mair and H. J. Willoughby, both of Tyabb, supported acquisition.

:: :: ::

Mr. A. W. Hill (Geelong), and Mr. A. W. Stevens (Vermont) opposed the acquisition scheme. Mr. Stevens said an Apple variety named "Just It," which came in between Gravenstein and Jonathan was requested by the public, but as it was not on the approved list he received only 1/- per tree.

Mr. A. E. Hocking, Healesville, favored orderly marketing. Regarding publicity he favored offering a prize of £5,000 for the best slogan advertising Apples, the condition being that each entrant purchase a case at 7/-.

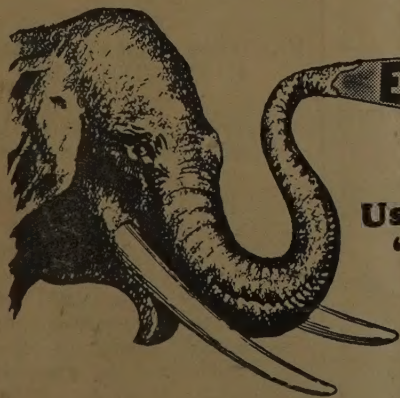
Mr. E. W. Hedditch, Portland, said acquisition had saved growers from ruin.

Mr. J. S. Lewis (Pearcedale) said that owing to acquisition his retail connection had vanished. The Government should deal with the export surplus and leave growers to market their own fruit.

Mr. L. S. Taylor, Superintendent, Tasmanian State Committee of the Apple and Pear Marketing Board, expressed appreciation of the scheme. He said that if all Tasmanian Apples came to the mainland the results would be disastrous to the whole industry. Local consumption was higher under Board control in 1940, and 50 per cent. higher in 1941.

Mr. W. H. Everard, M.L.A., in moving the adjournment of the Legislative Assembly, said that the acquisition scheme had robbed growers of their legitimate rights. Thousands of cases had gone to waste, while the public was starving for good cheap fruit. Growers were in a parlous state. He advocated the adoption of a voluntary plan to improve conditions.

The Minister for Agriculture condemned "silly nonsense and poisonous propaganda" being circulated regarding the scheme. The crux of the situation was



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Extract from "BETTER FRUIT," by Dr. R. L. Webster, Entomologist, State College of Washington, Pullman: CODLING MOTH COVER SPRAYS—"Ever since the imposition of an arsenic tolerance in 1926, and even before that time, investigators have been testing other materials which may be used in place of lead arsenate. Following all these intensive and extensive investigations lead arsenate appears to have certain inherent qualities which place this material foremost as an insecticide for codling moth control."

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Qld.—Busacott's Ltd., Adelaide Street, Brisbane.

S.A.—Silbert, Sharp & Bishop Ltd., Rundle St. E., Adelaide.

W.A.—Westralian Farmers' Ltd., 569 Wellington St., Perth.

N.Z.—Piszev, McInnes Ltd., Box 1114, G.P.O., Auckland.

Tas.—Sole Agents, E. R. Cottier Pty. Ltd., Davey St., Hobart; Exeter, West Tamar; also at Devonport and Latrobe.

**Insist Upon it!**

FRUIT GROWERS generally have come to depend on "Elephant" Brand Sprays. They find them absolutely reliable, efficient and of guaranteed quality.



that the quantity usually exported was now left in Australia. If the 12,000,000 cases were marketed there would be a disastrous glut. He was satisfied that growers were a long way better off under the acquisition plan.

Mr. J. G. B. McDonald, M.L.A., vigorously defended the acquisition scheme.

The motion for adjournment was negated.

### ACQUISITION OPPOSED.

The Editor,  
"Fruit World."

Sir,

It is reported in your issue of July 5, 1941, that I made the following statement when submitting evidence to the Joint Parliamentary Committee enquiring into the operations of the Apple and Pear acquisition scheme:—

"The Defence League has not co-operated with the Board in any way because it did not approve of the system."

This report is incorrect. One of the members of the Committee asked me if I did not think that it would have been better if

growers had co-operated with the scheme, to which I replied—"In other words if a burglar comes into my house I should help him out with the loot."

That any rational grower would tamely submit to the deprivation of all right of ownership in his fruit is beyond my comprehension. Democracy is at a low ebb when we have sunk to such depths of servile submission to tyranny. Progress is measured by the degree of freedom the people enjoy. Growers are forbidden to sell Apples and Pears in the Commonwealth, with the result that tons of good sound fruit rotted in all parts of the country where it is grown, added to which we have distributing charges largely increased at a time when it is absolutely essential to keep down costs in order that the fruit can be put before the people at a saleable price and at the same time be profitable to the grower. If this scheme is allowed to continue its drag on the industry a large number of growers who are solely dependent on advances paid by the Board for Apples and Pears will become insolvent.

In England, by bringing the price of Grapefruit to the level of the capacity of the people to purchase, consumption was increased from 1,200 to 59,300

tons in 15 years. By freeing the channels of trade and cutting out unnecessary distributing charges, such as this costly acquisition scheme, I feel confident that the consumption of Apples and Pears could be largely increased in Australia. Due to the lucrative positions offering at munition and other war work, those leaving their orchards to take up this work have become consumers instead of producers, thus decreasing the supply and quickening the demand. Give the growers the opportunity and they can be depended upon to get down to the task of selling the fruit with British grit and ingenuity.

Yours, etc.,

E. SERPELL.

Doncaster, Vic., 17/7/41.

### ACQUISITION DEFENDED.

To the Editor,

If, as asserted, there is more waste than usual, pity the growers in times like these without acquisition. If the grower is prepared to take advantage of all that is offered, the price for 2½ Jonathans is 3/- for the fruit and 1/3½ for the services rendered—total 4/3½, as against 3/- before acquisition. If this scheme is continued for three or four years we growers will be once again able to lift our heads and pay our debts.

L. M. SPENCER.

Croydon, Vic., 15/7/41.

### VICTORIA.

Southern Fruitgrowers to Meet on August 14.

The annual meeting of the Southern Victoria Fruitgrowers' Association will be held on Thursday, August 14, at the Box Hill Town Hall, at 1 p.m. Cr. G. T. Knee will preside. The membership is mainly in the metropolitan area. The subject of Apple and Pear acquisition will be discussed.

### APPLE AND PEAR MARKETING BOARD

Meetings of the Apple and Pear Marketing Board and the Apple and Pear Board, also conferences of State Superintendents, were held at Melbourne at the end of July.

There were present: Messrs. J. B. Mills (Chairman), H. W. Soothill (Deputy Chairman), L. S. Taylor, R. W. Humphreys, D. E. Ryan (Tasmania); B. Flewell Smith, E. L. Donaldson (Queensland); H. A. Stevenson, H. V. Smith (N.S.W.); R. M. Carter, G. Parke (W.A.); W. P. Hutchinson (Victoria); M. Vickers, P. R. B. Searcy (S.A.); C. H. Cox and W. M. Carne (Dept. of Commerce), and H. A. Baker (Secretary).

The conferences lasted for several days because of the large number of items to be dealt with, including the handling of the crop to the best ad-

vantage, cases, packing, canning and drying. It was noted that there has been substantial development in relation to the last-mentioned items.

### LATE BLOSSOMING OF CITRUS TREES.

Commenting on the late blossoming of citrus trees reported by the S.A. Ramco Branch of the Agricultural Bureau, Mr. A. G. Strickland, M.Sc. (Chief Horticulturist), says that out of season blossoming such as recently seen on citrus is certainly not normal behaviour, and is not favorable to cropping, but on the other hand it rarely seems to do much harm. Blossom appearing in Autumn will mean less blossom in Spring, but unless the flowering is very heavy this should not be of any great importance, as at a normal blossoming only 1 per cent. to 2½ per cent. set of blossom may give a heavy crop, and as the blossom becomes lighter the percentage set increases, a greater proportion of the flowers forming fruit at lighter blossomings; so that unless a very material lowering of the available blossom takes place, the crop is more likely to be determined by the conditions at the Spring flowering rather than lack of blossom.

This late blossoming may be of importance in Spring, however, if much out-of-season fruit is set. The setting of fruit appears to be linked with the available supply of nutrients (starch, sugars, protein, etc.), in the tree at the time of flowering and for a period thereafter, and on how these are being utilised. If the tree is carrying and trying to mature a crop of out-of-season fruit at the time, it is only to be expected that the setting will suffer.

In the same way, a set of out-of-season fruit will tend to depress the growth of the present crop if the second crop was inordinately heavy. This is of rare occurrence, however, and even if a moderate set occurs now, the fruit can be pulled at the time of harvest of the present crop before the trees suffer materially.

### FACTORY STRAWBERRIES IN QUEENSLAND.

Growers Receive Slightly Higher Prices than Last Season.

The price for factory Strawberries in Queensland for the 1941 crop is to be increased by halfpenny per pound on last year's price. The 1941 prices are: Jam sixpence, canning sevenpence. These prices are F.O.R. Brisbane and are subject to a factory handling charge of one farthing per pound.

Factory Standards are:—Jam—all fruit must be stemmed and fully colored, firm and free from dirt and leaves.

Canning—fruit must be of a size not less than 5's, stemmed, fully colored, firm and free from dirt and leaves.

### CITRUS FRUIT TREES

Late Valencia, Navel, Sweet Rind Lemon, Rough Skin Seville, Imperial Mandarin, Emperor Mandarin.

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# Budding, Grafting and Reworking of Fruit Trees

(By J. L. Provan, B.Agr.Sc., Senior Horticultural Instructor, and F. J. Greator, Orchard Supervisor, Department of Agriculture, Victoria, in "Victorian Journal of Agriculture.")

The purpose of this article is to explain in detail the principles of budding and grafting, and the methods by which these practices may be used for re-working, i.e., changing the variety, of fruit trees. An endeavour has been made to assist the grower and more experienced grafter and to instruct the beginner.

**T**HE PROCESSES OF BUDDING and grafting are used for propagating, re-working, providing pollinating branches in fruit trees, repairing injuries and, by inarching, to re-invigorate trees. Grafting, as a means of repairing trees damaged by implements, rabbits, hares and diseases, is not practised as extensively as it should be.

Growers sometimes have seedlings from which they desire fruit as early as possible. By grafting scions of these on to established trees, fruit can be obtained in the second season. Budding and grafting also offer a rapid method for the propagation of such seedlings.

In England, grafting has come to the assistance of the horticulturist in his fight against Bacterial Canker in Plum trees, (1). In Victoria, and other parts of the world, the budding of citrus varieties on to Gummosis (Collar Rot) resistant root-stocks has reduced the incidence of that disease. The control of Woolly Aphis on the roots of the majority of our Apple trees is possible only because varieties can be budded or grafted on to resistant root-stocks. The same processes enable invigorating or dwarfing root-stocks to be used for our fruit trees. Varieties frequently are so influenced by root-stocks that their climatic tolerance, and the season of maturity, as well as the size and quality of their fruit are affected. In budding and grafting, each part, whether stock or

any one of a number of scions worked on a stock, retains its own individuality and therefore is always recoverable. The influences just mentioned exist only while the particular combination is maintained.

A consideration of this wide range of uses of budding and grafting emphasises the vital part they play in horticulture, but their main use to the commercial fruitgrower is in the elimination of unprofitable varieties. Many orchardists are confronted with this problem, and they have to decide on one of two alternatives—either grubbing out the trees and replanting, or re-working them by budding or grafting to more profitable varieties. The former alternative need be adopted only in the case of weak or diseased trees. It is obviously unsatisfactory to incur the expense of re-working trees which have a doubtful future, or are affected by a wood-rotting fungus, such as *Polystictus*. On the other hand if the trees are vigorous and healthy, they should be re-worked.

A recent census revealed that there were approximately two and one third million Apple trees in Victoria, and at least 170 varieties of Apples. Eleven of these varieties constituted 90 per cent. of the trees and the remaining 10 per cent. (230,000 trees) comprised 159 varieties. All of the first-mentioned varieties are profitable, but only a few of the latter are worthy of continued cultivation. The remainder could well be eliminated. Making allowance for those trees which, for various reasons, it would be undesirable to graft, there are approximately 100,000 of these Apple trees which should be re-worked. To this total may be added the number of all other kinds of fruit trees in Victoria which should be re-

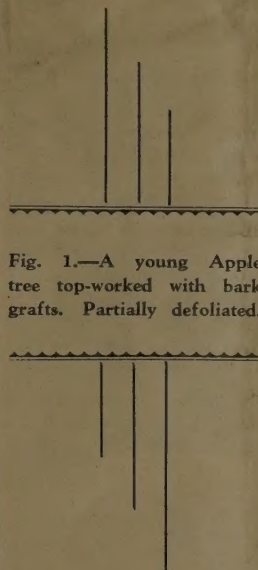


Fig. 1.—A young Apple tree top-worked with bark grafts. Partially defoliated.

worked to bring fruit varieties to a really modern level.

Prior to 1932, only "top-working" methods (erroneously called "crown-grafting") were practised by orchardists for re-working fruit trees, and the strap, bark and cleft grafts were those most favored for deciduous trees. About 1932 the method of "frame-working" by grafting in laterals and by peg-grafting was introduced, and in 1936 the Victorian Department of Agriculture, in a "re-working" campaign for pome fruits, popularised frame-working by the use of the inverted "T," "L" and "Needle" grafts, and also the whip-tongue and cleft grafts on strong laterals. The success which attended this work justifies the recommendations given hereunder.

## Explanation of Terms.

Propagators and re-workers use a number of terms which may be unfamiliar to some growers, and the following brief notes are given in explanation.

**Stock**—is a tree, or part of a tree, in which a bud or graft is inserted.

**Scion**—is that part of a variety which is to be "worked" on to the stock. The term scion is used also to denote all that part of the tree above the union with a stock.

**Grafting Scion**—is a dormant piece of the last season's growth, with more than one growth bud, which is to be used as a scion. Occasionally, older wood is used.

**Bud**—is a term used to denote a scion with only one growth bud which may have a small piece of wood attached. It is usually taken during the period of active growth of the tree. When, however, budding is done in the Spring, the bud is taken from dormant wood and is termed a Spring bud. The term "Shield-bud" refers to the shape of the piece of bark cut off with the bud.

**Bud Stick (or Bud-wood)**—is a mature shoot of the current season's growth removed from the tree to serve as a convenient form of handling and supplying buds. In Spring budding, the previous season's growth is used.

**To Work**—to bud or graft on to a young tree as in nursery practice.

**To Re-Work**—to bud or graft on to an established tree, usually an already worked tree, with the object of changing the variety.

**Callus**—is that part of plant tissue formed by the active growth of the living cells around a wound.

The following summary and classification of the kinds of methods for working and re-working, and some of the synonyms employed, will be useful to the beginner. The terms recommended for use in this State are shown in bold type; the synonyms are shown in brackets:—

## Top-Working (Crown-grafting).

**Strap.**

**Cleft (Wedge).**

**Oblique Cleft (Oblique Wedge).**

**Whip-tongue (Whip and Tongue; Tongue).**

**Bark (Rind).**

**Bud (Shield Bud).**

## Frame-Working—

**(Pole-grafting, Porcupine Grafting, Modified Side Grafting).**

**Peg (Plug, Chisel).**

**Bark Grafts—**

**"L", "V" and "I" (Inverted "T").**

**Needle (Awl, Straight Split).**

**Gouge.**

**Stub Grafts—**

**Bark (Rind).**

**Cleft—Mid-split (Wedge).**

**Side-cleft (Side graft).**

**Whip-tongue.**

**Bud in lateral.**

The following grafts and buds are not commonly used in Victoria, and it is not proposed to deal with them in this article:—saddle, side-tongue, slotted-side, splice or whip, and the veneer rind grafts, and the chip, flute, patch, forkert and ring buds.

## Principles of Budding and Grafting.

**W**ITH ORDINARY CARE, and the possession of an easily acquired knowledge of certain plant characteristics, which are dealt with in detail below, successful results are within the easy attainment of all.



Fig. 2.—A frame-worked Apple tree, on the property of Moore Bros., Blackburn. (Illustrations by courtesy of Vic. "Journal of Agriculture.")



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## Gargoyle RED Spraying Oil

Budding and grafting operations are rendered possible because a small part of the tree can survive for a time, after being cut off, provided drying out does not occur. If the part is removed during the growing period, survival is usually of short duration. Hence budsticks taken at this season must be carefully protected from drying, and used as soon as possible after their removal from the tree. Dormant wood will survive much longer. Graftingscions, kept cold and moist, can easily be held in a viable condition for four or five months.

On examining a smooth cross-section of a fruit tree branch, aged three years or more, in active growth, it will be found to consist of a woody centre with annual growth rings, the outside bark, and a very moist narrow ring—the cambial region—between the wood and the bark. Wood, bark and cambium are present in every shoot and are essential to budding and grafting.

The cambium is actually a very thin layer of brick-shaped cells which are capable of growing and increasing in number. They form woody cells on the inside surface and bark cells on the outside. In this way the branch or shoot increases in thickness. When in active growth, the cells contain a large

stressed, because much of the success in budding and grafting depends on it. If the exposure of these growing surfaces is unduly prolonged, or if any foreign matter, even water, is allowed to get between them, they will not unite. Under favorable conditions they do unite, or "take," and subsequently, growth of the scion occurs and the stock and scion become firmly connected by woody tissue.

All budding and grafting operations are only means of bringing the fresh growth-producing tissues (cambial regions) of the scion or bud into close contact with similar tissues of the stock, so that a firm union will result. All of the many methods of budding and grafting have been developed to suit particular stages in the conditions of the stock or scion, or the fancy of the grafter.

### Use of Growth Hormones in Grafting.

In recent years, Söding (2) and Evenari and Konis (3) have employed growth substances with a certain amount of success in vine-grafting, and the latter investigators by the use of these substances have shortened the time required for a good union and increased the callus formation.

(Continued on page 22.)

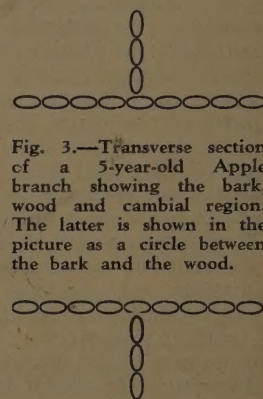
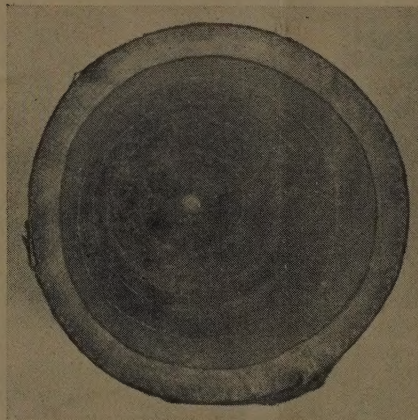


Fig. 3.—Transverse section of a 5-year-old Apple branch showing the bark, wood and cambial region. The latter is shown in the picture as a circle between the bark and the wood.

amount of sap, and the cell walls, as well as those of the few surrounding layers, are weak and easily broken. This is the reason why the bark can be separated readily from the wood during growth periods, and why budding and grafting operations can be performed so easily at those times.

Growers use the term "when the sap is rising" to denote this stage of growth. If a piece of bark is lifted from a branch at this time, the cambium, or growing region, adheres to the bark.

The exposed, young, woody cells of the branch, which appear so moist and slippery, retain some of their power of growth and produce callus, which, in the case of a graft, unites with callus formed by the scion, and, in the case of a bud, with the cambial cells on the inside surface, provided that a close contact is made in each instance.\*

The extreme importance of this close contact cannot be over-

### APPLES FOR SCHOOL CHILDREN.

The distributing Apples to schools in conjunction with the telling of the "Apples and Health" story is steadily proceeding in N.S.W. Members of the N.S.W. Chamber of Fruit and Vegetable Industries provide the transport for the speakers every Thursday morning. This work is conducted with the co-operation of the N.S.W. Department of Education.

The team of speakers and helpers include Messrs. J. Holmes, K. Holmes, H. McKay, T. Hewson, Chas. Cooper, S. Coleman and R. Overall, A. C. Ward, P. S. MacDermott, L. T. Pearce, W. J. Musgrove, L. J. Jenkins, G. Pogson, H. P. Woodward.

"There are only two things in the world to worry over—things you can control and things you cannot control. Fix up the first to your liking and forget the second."



# New South Wales

## Murrumbidgee Irrigation Areas

ORANGE CROPS NOT HEAVY — EXPORT TO NEW ZEALAND —  
VALUE OF TAR DISTILLATE SPRAYS — GREEN COVER CROPS  
— PEST CONTROL.

(By Our Correspondent.)

**Export to New Zealand:** Although limited compared to last season, export of Navel Oranges to New Zealand continues smoothly.

All shipments sent so far have been via Melbourne, necessitating transshipment at the border. Some damage has been caused from time to time by the change over, but despite this there have been no rejections by the Victorian Government Inspectors. Considering that there have already been about 12,000 export cases forwarded, this speaks very highly of the standard of grading and packing maintained on the Area, and reflects credit on all concerned.

**Orange Crops Not Heavy:** Only medium crops of both Navel and Valencia Oranges are showing in the citrus groves. Navels are running large, but, owing to fairly dry weather, Valencias will be mostly around the popular sizes. Other citrus crops are fairly heavy.

**Seasonal Conditions:** As mentioned previously, we have had a dry Winter, only about an inch of rain having fallen since early Autumn. Some heavy frosts have been experienced, causing considerable damage to young citrus trees.

**Seasonal Operations Well on Way:** Pruning of deciduous trees and vines is well advanced, although many growers in frost-affected areas wait until early August to delay budburst as long as possible.

**Tar distillate sprays** are now being applied for the control of Green Peach Aphid. This spray is part of the Peach growers' Bible, and very few growers miss out on it, although a combined lime sulphur-nicotine sulphate spray with aphicidal and fungicidal value may be applied at late bud swell. Other growers are spraying with miscible oil 1-25 for the control of Red Mite, San Jose Scale and Prune Scale, the former being very prevalent this season.

**Green Cover Crops:** Not so many Tick Bean crops are to be seen this year, owing to the dry weather conditions, and those crops seen are backward compared to past seasons. A few growers favor field Peas, while others pin their faith in Clovers, both self sown and cultivated. There is considerable scope for experiment in this field, as will be remembered from these notes in previous issues of "Fruit World."

Growers interested in cover cropping are referred to a special article on this subject by C. J. Horth, Fruit Instructor,

N.S.W. Department of Agriculture.

**Heavy Build Up of Red Scale:** The past fumigation season has been one of the most unusual on record. Starting with one gang in January, and with only three thousand trees booked up, the Griffith Producers Co-Op. Society, who do the major portion of the fumigation on the Mirool (Griffith) portion of the Area, ceased operations in late May with three gangs in operation and still about nine thousand trees unfumigated.

Windy nights and a most unusual build up of the Scale population in March, owing to the very mild Autumn, were contributory factors in this most unusual state of affairs. This will be more apparent to readers when it is pointed out that in one season the above-mentioned company fumigated eighty thousand trees.

**Codling Moth Damage:** The past season's Apple crop suffered much damage from this pest, which can be counted as number two enemy of the M.I.A. fruit-growers, taking second place only to Red Scale. Shortage of farm labor during the rush harvesting season, and consequent failure to pick up infected windfalls, contributed in no small measure to the heavy infestation in January and early February.

**M.I.A. War and Patriotic Effort:** The Area has a proud record in regard to enlistments. Griffith alone has sent about seven hundred men to the overseas forces. Patriotic efforts are well supported also at Griffith, as the recent appeal by the local Police resulted in the sum of over £500 being collected. This was followed up a few days later by the W.A.N.S. collecting £150 for a Mobile Kitchen. Other outstanding efforts have been achieved by the Women's Auxilliary of the R.S. & S.I.L.A. and the Red Cross. Another vigorous body in this field is the Hanwood Group of War Workers.



Apple Festival conducted by N.S.W. Committee, Apple & Pear Marketing Board. (Morley Johnson's window in George Street, Sydney).

### NEW SOUTH WALES.

#### Orchard Registration Fee.

#### Value of the Fruitgrowers' Federation.

**G**REAT BENEFITS to growers have resulted from the activities of the Fruitgrowers' Federation of N.S.W., states its President, Mr. F. B. Mackenzie. The Federation is financed by means of the orchard registration fee.

On July 31 the vote closed as to the continuance or otherwise of the orchard registration method of raising finance. Voters included owners of registered orchards of 1 acre and more as at June 30, 1941. Owners of orchards of less than 1 acre (except Banana growers) were not given a vote, as they would be exempted from future registration irrespective of the poll.

Correspondence appeared in the Sydney press both for and against the continuance of the orchard tax. While some prominent citrus growers urged its abolition, Mr. W. E. Kirkness, of Gosford, said that the system which operated under orchard registration, while not perfect, had enabled substantial progress to be made in organisation.

Mr. T. A. Tester, Secretary, Young Fruitgrowers' Co-op. Society, spoke of the representative character of the Federation, and if a negative vote were recorded the fruit industry in New South Wales would be without a guiding hand.

#### Deputation to Minister for Agriculture.

A deputation from the Fruit-growers' Federation of N.S.W. waited on the Minister for Agriculture (Mr. W. F. Dunn) on the subject of the Orchard Tax, asking for two separate polls—one of commercial orchardists, and the other of holders of up to two acres—for a postponement of the poll for three months. It was pointed out that if commercial orchardists voted against the tax there would be justification for the Government in abolishing it, but the majority of those registered paid 1/- and upwards, and these should not be allowed to decide an issue affecting commercial orchardists.

In reply, the Minister said he would give consideration to the question of separate voting, but did not know whether it could be done. He could not say if the poll would be postponed as the ballot papers were being already prepared.

#### BRISBANE ROYAL SHOW.

The Royal National Show is being held at Brisbane from August 11 to 16. This is a big and important event. The fruit display in the past has been described as the most comprehensive in Australia.

At the forthcoming show the Queensland Committee of the Apple and Pear Marketing Board has arranged for a big display of Apples and Pears and is supplying information to the public on the health value of these fruits.

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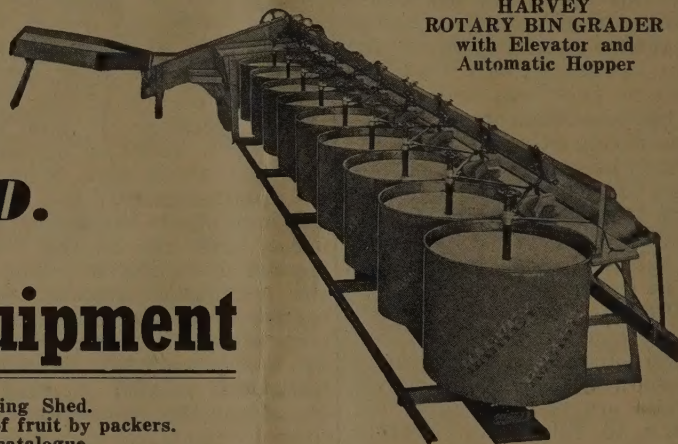
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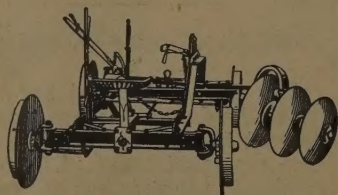
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"HARVEY" PATENT OFFSET TANDEM  
TRACTOR DISC CULTIVATOR.

Cuts out all hard working under citrus trees, and keeps the ground level.  
Specially designed to work right under the limbs up to the trunks of the Orange  
and Lemon trees. Will lift limbs loaded with fruit off the ground, cultivating  
to any predetermined depth, and then gently putting back in position the fruit-  
bearing limbs without injuring the fruit or fibrous roots. Cuts out all weeds without clogging.



"HARVEY" PATENT OFFSET TAN-  
DEM DISC CULTIVATOR: Cultiv-  
ates right up to the butts of the  
trees or vines while the Tractor  
is driven right out in the middle  
of the row.  
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for deeply cultivating heavy irriga-  
tion land.

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S.A.—Silbert, Sharp & Bishop, Rundle St., East Adelaide.  
W.A.—Paterson & Co. Ltd., St. Georges Terrace, Perth.  
S.A.—Cole & Woodham, Box 12, Renmark.

Southern Tasmania—Wm. Crosby & Coy. Pty. Ltd., Collins St., Hobart.  
Northern Tasmania—Max Geaves, 177 Brisbane St., Launceston.  
Queensland: Buzacott (Queensland) Ltd., 443 Adelaide St., Brisbane.



## Stationary Spray Plant

Success in Goulburn Valley, Victoria

**S**UCCESS HAS FOLLOWED the installations of stationary spray plants in New Zealand, Tasmania, and in the Mainland States.

The following information, culled from the quarterly pub-

**Maintenance on Plant**—Nothing, other than hose nozzle and tap washers.

**Condition of Pipes**—The 16,500 feet of piping which serves 40 acres of Pears showed no corrosion at all on inspection.



Stationary Spray Plant at Turnbull Bros.' Orchard, Ardmona.

lication of the Electricity Commission of Victoria ("Victorian Rural Electrification News") gives some details of the spraying operations at the orchard of Messrs. Turnbull Bros., Ardmona, Vic.

A check of the results showed "everything in favor and nothing against."

This plant was one of the first to be installed in Victoria, and after three years continuous service the users are very happy to advise their fellow orchardists in the following terms:—

### Rate of Application More Than Twice as Fast.

Rate of application of spray at the correct time is our most important consideration, and the following figures indicate the superiority of the stationary spray system:—

Portable plant—4 pumps, 8 men, covered 40 acres in 16 days.

Stationary plant—1 pump, 7 men, covered 40 acres in 7 days.

So that the time is reduced to less than half with a man less.

### Unfavorable Spraying Conditions Overcome.

With portable equipment it was often necessary to employ two horses for a "one horse" tank which involved retaining extra horses or reducing the number of pumps operative. Now, with the stationary equipment, the manager decides when it is advisable to interrupt or recommence spraying (due, say, to windy weather) and his decision can be given effect to immediately.

With the old portable equipment it was necessary to contact each party and even when this was done valuable time was often lost in re-harnessing horses, etc., and travelling to and from the stables.

**Reliability**—100 per cent. from experience.

**Spray Performance**—The central vats enable one man to ensure correct mixtures. Correct agitation is assured and the pressure at the extremities of the pipe is ample. These factors result in excellent spraying of 31 year old Pear trees which are regarded by orchardists who have travelled the world to be as large and well developed as are found anywhere.

**Installation Costs**—Approximately £13 per acre overall.

The great importance of these results obtained on Turnbull Bros. orchard from the installation of a stationary spray plant is readily apparent—the final and most practical testimony to the system being that the complete satisfaction obtained has influenced the management to commence installation on another of their orchards.

## Goulburn Valley [Victoria] Notes

(By Our Correspondent.)

ANNUAL MEETING OF NORTHERN FRUITGROWERS' ASSOCIATION.

**T**HE MOST IMPORTANT news of the month is the annual meeting of the Northern Victoria Fruit Growers' Association, a full account of which appears in this issue.

Good soaking rains fell throughout the districts during July; these have been of enormous benefit to pastures, crops and orchards, and has also assisted materially in filling up water storages.

July has been a busy month. The spraying programme for Green Peach Aphis, with a cover spray of tar distillate, has been in full swing—rather heavy going for the spray pumps after the recent rains. The canning factories have also been busy, getting away large shipments of canned fruits overseas.

During the month the Parliamentary Committee on Apple and Pear Acquisition met in Shepparton to take evidence on the acquisition scheme.

The following spraying circular was issued during this month for the guidance of orchardists by the Shepparton Advisory Committee.

**Apricots:** For the control of Shot Hole two Bordeaux sprays should be applied, the first to be completed as soon as possible and the second spraying at the pink bud stage.

**Peaches:** There are indications of the probability of an infestation of Green Peach Aphis, and it is strongly recommended that all Peach trees be sprayed with tar distillate. The greatest care must be taken to ensure that all tips of branches are sprayed, as sufficient eggs may be left on a twig to infest the whole tree. This spray should be applied on July 14 and finalised on July 28.

**Black Peach Aphis:** Any trees affected with Black Peach Aphis should be attended to immediately with a spray of nicotine and soft soap. It has been found that a method of control of this pest that is beneficial is the encircling the butt of the tree with fresh tobacco waste.

**Codling Moth:** The Committee urges that all chemical bandages be removed and destroyed, and bags bandages be examined, and all grubs destroyed. When pruning be sure to saw off all broken ends of branches which may harbor grubs; all loose bark should be scraped off, and all forks of trees cleaned out and all hibernating grubs destroyed. Attention should also be given to Apple trees, and especially Quince trees.

A circular with spray to control San Jose Scale will be published later.

### Northern Victoria Fruit Growers' Association.

The annual meeting of the Northern Victoria Fruit Growers' Association was held at Kyabram in the last week in June, with Mr. W. Young, President, in the chair.

The annual report and balance sheet for the year ending May 31, 1941, was presented. During the year Mr. W. Young resigned from his position on the Apple and Pear Acquisition Committee and Mr. N. W. Fairless was elected to fill the vacancy.

The reduction in prices paid for canning Peaches delivered to factories this season is considered unjust, in view of the increased costs of production, and this Association is deter-

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Goulburn Valley Notes - Continued

mined to press for fairer treatment by the Fruit Industry Sugar Concession Committee when fruit prices are fixed for 1941-1942 crops.

The main items of interest which have occupied your Association during the past year are dealt with under separate headings as follows:—

Canning Fruits.

The continuance of the war made overseas trading extremely difficult, and it was only after protracted negotiations that a contract for 750,000 cases of fruits was obtained from the British Ministry of Food, but owing to the limited amount of shipping available, months elapsed before this was finally cleaned up.

This, however, left canners with substantial stocks—approximately 300,000 cases available for shipment.

After further negotiations a further sale covering this quantity

was made in November, 1940, but it was, only recently that the balance of this was shipped.

In the meantime the 1940-1941 fruit was processed, and for your information the following figures give a comparison computed in cases of 2 doz. 30 oz. cans, covering the packs for the years 1939, 1940, 1941.

During February of this year a contract for 510,000 cases of

	1939.	1940.	1941
Apricots . . . . .	282,420	397,135	288,149
Peaches . . . . .	1,852,796	1,312,289	1,659,404
Pears . . . . .	572,977	877,847	785,148

fruits was entered into with British Ministry of Food, and subsequently this was extended to cover the exportable surplus, estimated at approximately one and a quarter million cases. Up to date only a small portion of these has been shipped, but canners have orders for substantial quantities to be packed

ready for shipment. Shipping problems are more acute than ever, and it would appear that large quantities, although sold, will be in canners hands when next season's fruits are available for processing.

The whole position is contingent on the shipping which becomes available.

Australian trade during 1940 was well maintained, and was supplemented by local Defence Department orders. Sales on the local markets have been

satisfactory to the end of May of this year.

As pointed out in last year's report, the New Zealand trade was restricted during 1940 to 5 per cent. of the 1938 period shipments. This percentage has been reduced for this year, 1941, to 25 per cent., which

greatly restricts canners' operations in these markets.

Tinplate.

Some few months ago canners were advised that no further tinplate shipments would be made from Britain, consequently negotiations have been taking place with America through the British Purchasing Committee in that country for supplies for the next pack.

To control the supply and use of tinplate, a Tinplate Control Board has been appointed by the Commonwealth Government.

Present indications are that supplies will be made available, but everything is again contingent on shipping and the safe arrival of cargoes.

Dried Tree Fruits.

The personnel of the Board remains unaltered, and the levy has again been fixed at 4/3 per ton.

1940 Crop: As expected, the 1940 crop proved to be rather larger than that of the previous year, Prunes being up to 2,400 tons and Apricots 1,600 tons.

The Commonwealth demand for all fruits was good, and the bulk of it, helped by Army demands, was sold in Australia. Stock in London, which was light, was taken over by the Ministry of Food.

A large proportion of the Pear pack consisted of the lower grades, and the disposal of this fruit presented some difficulty, but final account sales for Pears are now in course of preparation. All other varieties were finalised some time ago.

1941 Crop: Owing to increasing demands by the Defence Department, a large proportion of all dried tree fruits has been acquired by the Government out of the 1941 crop.

Apart from a small export to New Zealand, the whole of the balance will be sold in the Commonwealth, and it is likely that supplies for civil use will be short before the end of the year.

Prices fixed are the same as last year, and returns should be at least as good as last year.

A.D.F.A. Tree Fruits Committee.

As there are no exports of tree fruits at present on account of the war, it was decided at the A.D.F.A. Federal Council meeting, held in October last, that this Committee should not function until exports are again necessary.

It can, however, be called together by the Chairman at any time he deems advisable.

Apple and Pear Acquisition.

The Minister of Agriculture in this State convened a conference last June to discuss proposals relative to an acquisition scheme for the 1941 Apple and Pear crop. Delegates were appointed to represent your Association at the conference, and they conveyed the resolutions carried unanimously by the Association to the Minister. The resolutions referred to were:—

Firstly: "That this Association is in favor of an acquisition

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**Goulburn Valley Notes—Continued**

scheme for Apples and Pears for the season 1941," and

Secondly: "That W.B.C. Pears, both for canning and market purposes, be included in the acquisition scheme."

Your delegates met representatives from various fruit districts of the State, and from time to time these representatives held a number of meetings in an attempt to obtain the most favorable terms possible for Victorian growers, should acquisition continue.

The Commonwealth Government convened a conference in Canberra early in July to deal with the same difficult problems.

The Government requested each State Minister of Agriculture to attend the conference in Canberra and suggested that he should be accompanied by the following delegates: 2 growers, 1 merchant, 1 shipper.

In order that our growers might be adequately protected, the Victorian delegates asked Mr. Hogan to consent to four grower delegates to the conference. The Minister agreed to this request.

The following delegates were appointed by the meeting:—Messrs. S. P. Cornish (Northern Victoria), F. Moore (metropolitan), W. P. Mair (Peninsula), and T. Black (Gippsland), all of whom attended the meeting in Canberra, which lasted four days. At a later stage, Messrs. Moore and Cornish attended a meeting of the Agricultural Council in Sydney.

From this stage negotiations dragged on endlessly until Pears were actually on the market a week before the Board was empowered to spend a penny on the new scheme, and in this connection it is only fair to say that if any future scheme is to be a success, ample time must be given for the Board to make the necessary business arrangements.

The scheme in force last season is too well known to all our members to need any further explanation here. Suffice it to say that the prices paid do give the average efficient grower an opportunity to remain on his holding, although the prices are insufficient to cover present costs of production. As to the future, your Association has again expressed its unanimous opinion that an acquisition scheme is necessary if we are to avoid chaos on the markets of Australia and ruin of the growers dependent on the industry. Your Committee will submit evidence to the Parliamentary Committee now enquiring into aspects of the Apple and Pear acquisition scheme.

#### Horticultural Research Station, Tatura.

During the year ending June 30, 1941, the development of the Research Station has been limited by reason of finance. Work and expenditure have been devoted to the maintenance and consolidation of those areas

already planted for experimental purposes, rather than to an extension of the area under trees and the scope of the work in hand.

Trees in the two Peach blocks and the Pear block already established made particularly good progress during the current year. A small crop of **Golden Queen Peaches** was harvested—some six tons being sent to the cannery, and approximately one ton being packed for the Melbourne market.

A considerably greater quantity of fruit should be harvested next year.

The Peach trees lost as a result of the wet Autumn and Winter of 1939 were replaced in July last, and the re-plants have grown well. Unfortunately, further damage has occurred in the irrigation experimental block this year. The wind storms, following heavy rains in January, blew a few trees out of the ground and damaged many others to varying degrees. The damaged trees were staked as soon as was practicable, but despite this it is likely that 20-30 trees will have to be replaced. This is unfortunate, as for an experimental point view it is desirable to have the trees of the same age and as uniform as possible.

Measures to improve the fertility of the unplanted area at the Station has been continued. A further 8 acres was graded and planted down to Subterranean Clover this Autumn, making in all an area of 31 acres treated in this manner.

#### Experimental Work.

This is still very limited, because of the lack of adequate technical staff and facilities. During the year a small **Tomato experimental plot** was established at the Station. Finance for this work was provided from separate funds set aside for Tomato investigations, and the work was carried out mainly by the Vegetable Research Officer, Mr. F. A. Maher.

In general, experimental work was proceeded as follows:—

1. Peach breeding and selection.
2. Pear stock investigations.
3. Irrigation investigations.
4. Studies of fruit and shoot growth.
5. Tomato investigations.

#### Staff Finance and General.

It is estimated that £3,200 will be needed to cover capital expenditure and maintenance during the coming year. This is the minimum necessary to prevent the Research Station from depreciating in value as an asset to the industry.

#### Experimental Work.

**Codling Moth in Williams Pears.**

The investigation of the problem of Codling Moth in Williams Pears was commenced by the Biological Branch of the Department of Agriculture in 1936, at the request of the Northern Victoria Fruit Growers' Association.

For the past three years, the investigation has been mainly directed towards field control experiments. Throughout the investigations these experiments have been conducted on the property of Messrs. Turnbull Bros., consequently the stage has now been reached when a final report covering the full scope of the investigations can be prepared for publication.

#### Apricot Brown Rot Investigations, 1940.

The work on this project has now been in operation for three years, and was transferred from the Ardmona area to Kyabram last season. A block of 422 **Tilton Apricots** was kindly made available by Mr. R. K. Woods, Jnr., and seven spray schedules were tested in a replicated layout. Storage and canning trials were carried out at the Kyabram cannery.

The main information obtained relates to the various treatments on the fruit and foliage.

All cover sprays were at a strength less than a quarter Bordeaux, except a small trial plot, which received a 3-2-80 Bordeaux mixture. The results show that under the conditions of the experiments, injury in the form of russet and skin blemishing can be expected on Tilton Apricots cover sprayed with Bordeaux mixture 3-2-80. Injury from Bordeaux mixture 2-2-100 was noticeable, but far less extensive.

Copper oxychloride at 1½ lb. to 100 gals. of water resulted in fruit russet. A new spray material, copper oxalate, tried for the first time under Victorian conditions, showed some promise at the rate of 2 lb. to 100 gals. of water.

Canning trials so far have not revealed any unsatisfactory conditions such as can blowing, deposits on metal, or flavor effects. Storage trials of the fruit on the cannery floor gave negative results, as no fruit rot developed in any of the schedules.

#### Oriental Peach Moth.

A full report on this experiment was published in a recent issue of the "Fruit World."

Other matters dealt with were

#### Industrial matters, Liquid fuel,

and in the general business water rights and supply of excess water for irrigation, drainage; cartage rates in Sydney; and approved Sydney selling agents, etc., were dealt with.

The value of the loyal and close co-operation of all Associations affiliated with the Northern Association has been again demonstrated by the sound financial position achieved and by the influence and prestige attached to all opinions expressed on your behalf by your Executive. We look forward to your full support and active interest in the coming year.

S. P. CORNISH, Secretary.

#### Officers Elected for the Ensuing Year are:—

Mr. W. Young, President; Mr. N. W. Fairless, Vice-President; Mr. S. P. Cornish, Secretary and Treasurer; Mr. N. W. Fairless, Mr. W. F. Cooper, Mr. S. P. Cornish, Executive Committee; Mr. J. D. Simson, Mr. F. Clayton, Mr. J. M. Sinclair, Export Pear Committee; Messrs. John Stubbs & Son, Auditors.

Meeting place: Kyabram.

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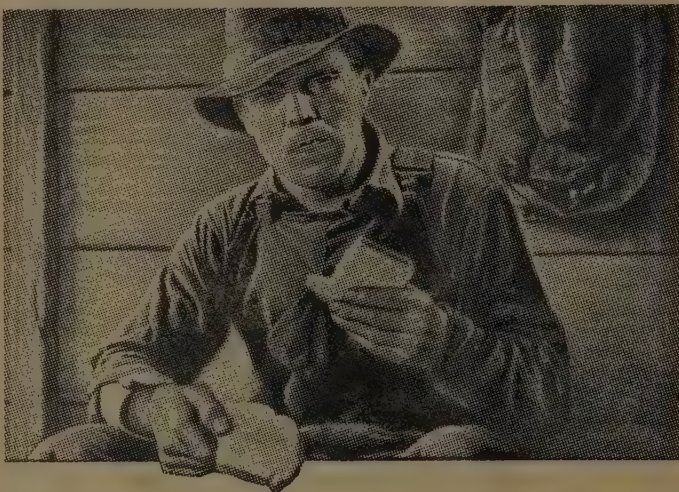
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## Seasonal Orchard Notes

CROSS-POLLINATION OF ALMONDS — CONTROL OF WOOLLY APHIS, SHOT HOLE, SCAB AND CURLY LEAF — MANURING THE ORCHARD — GRAFTING FRUIT TREES.

(By J. L. Provan, B.Agr.Sc., Senior Horticultural Instructor, Victoria.)

During late July and early August Almond trees will be in bloom. Although the Almond is closely allied to the Peach and Apricot it is unlike those fruits in one aspect, because it requires cross-pollination in order to set good crops.

The varieties of Almonds can be divided into three main classes, based on their periods of bloom—early, mid-season, and late blooming.

The early blooming varieties include Brande's Jordan, Chellaston, and Early Jordan. These are followed by the mid-season varieties—Riverside Peerless, and Ne Plus Ultra, and in the later blooming class are found I.X.L., White Nonpareil, and Hatch's Nonpareil.

In some districts and seasons the mid-season blooming varieties serve the useful purpose of cross-pollinating the late blooms of the early varieties and the early blooms of the varieties flowering later. It is better, however, if maximum crops are required, to provide varieties which synchronise in blooming.

Failure of the early blooming varieties to set good crops is not always due to inadequate cross-pollination, because at this period of the year the incidence of frosts is greater than a few weeks later when the later varieties are blooming.

If the planting of trees has not been made in such a way as to provide interpollination, then the grower must graft or bud suitable varieties on to the trees for the production of blossom in later years, and adopt the more temporary and also more arduous task of placing boughs of blossom from other varieties in vessels of water suspended in the trees.

### Pest Control.

For the control of Woolly Aphid growers are urged to collect heavily parasitised twigs during the pruning season and either leave them in a heap at the base of the tree, or place them in old cases scattered throughout the orchard. The parasites hatching from these prunings will markedly increase the population of the Aphelinus Wasp in the Spring and Summer months, and this will exercise greater control on the aphid. Growers who have found the

parasite rather ineffective until the Autumn are urged to adopt this practice.

Peach and Apricot trees will be approaching the "pink-bud" stage, and the essential 6-4-40 Bordeaux mixture spray should be applied at this stage to control Shot Hole and Scab and Curly Leaf. This spray also assists in the control of Brown Rot.

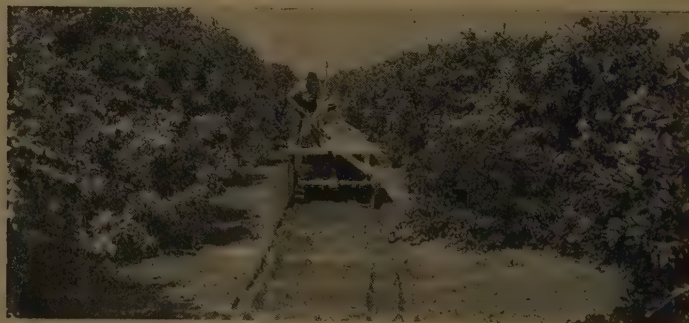
### Manuring.

August is a good month to apply fertilisers to the orchard, particularly for the stone fruits, which will be blooming ahead of the other deciduous fruits. For mature Peach trees up to 4 lb. of sulphate of ammonia, or its equivalent in some other form of nitrogen, per tree, will be necessary if vigorous growth and production are to be maintained. On more fertile soils this amount can be reduced somewhat, providing the grower carefully watches the trees' vigor. On light soil types about 5 lb. of a complete fertiliser of the 2-2-1 type can be used with advantage.

The increase in the cost of nitrogenous fertilisers can be somewhat offset by the more regular use of leguminous cover crops in the orchard. Consideration of this aspect may become necessary on poor soils. Where difficulty has been experienced in the past in establishing green manure crops, growers should use every endeavour to secure some form of farmyard manure to supplement the Spring application of artificial fertilisers.

### Grafting.

Cherries, Peaches, Plums, Apricots, and Almonds may be grafted this month, as soon as growth has continued long enough to allow the bark to be separated easily from the wood of the stock. The scions, of course, must have been obtained in the Winter and kept dormant by storing in a cold place. For sealing these grafts Colgraff and Mastic H will be found more convenient than the mixture of Colas and starch formerly employed for this purpose. Attention to disbudding, tying of growths from scions, and resealing will be future operations to bear in mind, and these practices always repay the time spent on them.—"Jour. Agric.," Vic.



Spreading the Fertilizer in a Citrus Grove.





# South Australian News and Notes



Official Reports and Notes of the South Australian Fruitgrowers' and Market Gardeners' Association

## S.A. Fruitgrowers and Market Gardeners' Association Incorp.

**T**HE Executive Committee of the above Association met in the Board Room, 288a Rundle-street, Adelaide, on Friday, July 25, at 10.30 a.m.

The President (Mr. H. N. Wicks) occupied the chair, and members present were:—O. Essalbach, G. H. Schultz, H. B. Robson, M. Georgeff, A. Elliott, F. A. Wicks, C. W. Giles, E. J. Pitman, A. E. Brealey, D. W. Hannaford, H. K. Caldicott, L. B. Pfeiffer, R. B. Pritchard, W. J. Bishop, L. J. Wicks, S. M. James, R. Hunter, J. B. Randell, N. T. Hobbs, C. Stanford, H. W. Parsons, G. Jennings, C. H. Ragless, A. D. Chapman, W. G. McLaren, M. G. Hannaford, A. H. Pellew, E. L. Giles, R. A. Cramond, C. J. Pitt, A. O. Petersen, J. Turner, J. D. Yeatman.

Apologies received from Mr. A. G. Strickland (Chief Horticulturist), Messrs. M. Packer and L. G. Pethick.

Minutes read and confirmed.

**Petrol Rationing:** The President welcomed the Premier (Mr. T. Playford) and Messrs. McMillan and Williams, representing the Liquid Fuel Control Board.

The Premier briefly addressed the meeting, outlining the position in Australia as to petrol conservation, but realised the necessity for the marketing of primary produce; for this reason he had brought along with him Messrs. McMillan and Williams to discuss the position with the meeting.

Mr. McMillan advocated closer co-operation between growers for the marketing of their produce and the formation of a committee within the industry not only to make recommendations to the State Liquid Fuel Control Board but also to advise members of the Association. Mr. Williams pointed out that primary producers on the face of sufficient evidence were able to secure a Bulk License enabling them to secure a bulk ration over a period of 6 months.

The position of fruitgrowers and market gardeners was outlined by several members and it was pointed out that the needs

of growers in most instances were seasonal, necessitating greater supplies of petrol during certain periods than was necessary during others.

It was also pointed out that the loyalty of growers was strong and they had co-operated in marketing wherever possible, but the pooling of market loads was impossible in a great number of instances owing to the perishable nature of the produce and the necessity of finding a quick market.

It was ultimately moved by Mr. W. J. Bishop, and seconded by Mr. A. O. Petersen, "That a committee representing every section of the Association be formulated to thoroughly investigate the petrol position within the industry and to make recommendations to the State Liquid Fuel Control Board. Carried.

**Correspondence** (1) Circular from Liquid Fuel Control Board.

(2) Invitation from S.A. Fruitmarketing Association for any member of the Association to attend a picture show, covering matters of interest to fruitgrowers, at the Claridge Theatre on Friday, July 25, at 2 p.m.

**Annual Meeting and Conference:** In view of the present conditions the advisability of holding the usual conference in conjunction with the annual meeting was discussed at length.

Mr. J. B. Randell moved "That the annual meeting only be held and the usual conference dispensed with." Seconded Mr. C. Ragless. Carried.

Mr. W. J. Bishop moved as an amendment "That a conference be again held this year in conjunction with the annual meeting." Seconded Mr. R. A. Cramond.

The amendment was defeated and the motion carried.

Resolved the September Executive meeting be held at 10 a.m. on Friday, September 26, with the annual meeting at 11 a.m.

### Sectional and Branch Reports.

**Celery:** Mr. N. T. Hobbs reported that quantities were going forward to interstate markets satisfactorily.

**Citrus:** Mr. O. Essalbach reported that quantities and prices on the local markets were at present satisfactory.

**Tomato:** Mr. C. Stanford reported that the glasshouse Tomato season was just commencing, and early prices were satisfactory.

**Potato:** Mr. J. B. Randell reported that he had attended a meeting of the Onkaparinga Potato Branch when the proposals of last meeting of Federal Potato Advisory Committee were discussed at length.

**Apple and Pear:** Mr. H. N. Wicks reported on the enquiry held into Apple and Pear marketing by a joint Federal Committee when he tendered on behalf of the Association information derived from the questionnaire recently submitted to growers by the Apple and Pear Section. The Federal Committee considered the questionnaire to be a very valuable document.

**Marion Branch:** Mr. H. W. Parsons stated that the Branch was running satisfactorily. The next meeting was the annual meeting, and he extended an invitation to any Executive member to attend.

**Cudlee Creek Branch:** Mr. R. B. Pritchard reported satisfactory working of the Branch.

**Fruitgrowers' Society:** Mr. W. J. Bishop reported very satisfactory progress of the Trading Society and reminded members of the annual meeting of shareholders to be held in September.

**Finance:** The Secretary presented the Financial Statement together with accounts for payment.

**Payroll Tax:** The Chairman stated that requests had been received by the Association for some action to be taken in regard to the Payroll Tax.

This tax, it was considered, would be burdensome to growers owing to the fluctuating nature of markets for produce and inability of the grower to offset the charge.

Mr. N. T. Hobbs moved "That the Taxation Department be written pointing out the hardship the Payroll Tax will impose on primary producers." Seconded Mr. O. Essalbach. Carried.

### APPLE AND PEAR MARKETING.

Joint Federal Committee in Adelaide.

Evidence on the Apple and Pear acquisition scheme was heard in Adelaide yesterday by the Joint Parliamentary Committee appointed to enquire into the operations of the Apple and Pear Marketing Board.

The Committee, which has already taken evidence in all the other States, comprises Messrs. J. A. Perkins (Chairman), and R. T. Pollard, Sir George J. Bell, and Messrs. C. W. Frost, and Alex. Wilson, M.H.R.'s, and Senators J. M. Fraser and James McLachlan.

Mr. J. T. Osborn, of Kersbrook, said that growers would have been ruined through competition on a limited and uncontrolled market if the Government had not acquired the fruit. He suggested, however, that all non-commercial orchards should be eliminated with or without compensation, and that growers should be paid more promptly on assessed fruit as under the present arrangement some growers were unable to meet their commitments.

Mr. L. P. Ross, of Williams-town, who favored the continuation of the scheme for the duration of the war, said that if marketing had not been controlled many growers would have been forced off their properties.

"The system of processing through registered sheds has meant that the public has been given excellent fruit," he said, "The standard of quality and grading has been uniform throughout the State, and I am convinced that a public demand

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has been created for Apples. The Board has performed a splendid service to the industry."

Mr. A. F. Fullston, of Kersbrook, who supported the scheme, said that although retail prices for Apples were higher, growers were receiving less. He attributed this to the high administration costs of the Board, and scouted any suggestion that the position was being exploited by the retailer. He thought that more fruit could have been dried if additional plant had been available.

The abolition of the scheme was advocated by the Chairman of the Central Market Stallholders' Association (Mr. D. W. Chamberlain) on the grounds that retail prices were ridiculously high, and that the quality of the fruit was no better than before Government control. He suggested in its place a subsidy of about 1/- a case to the grower and the resumption of open marketing.

"The present scheme is only piling up unnecessary expense for the public," he said, "and prices are out of all proportion in view of the good seasonal conditions. Slightly blemished fruit which could formerly be retailed for about 2/6 a case, is now unavailable, and the public is being exploited under the present system."

Mr. Chamberlain contended that the bulk of the Australian Apple surplus could be consumed here if it was made available to the public at more reasonable

prices. Fewer Apples and Pears, he said, were consumed by the general public this year than would have been the case in an "on" year before Government control.

Mr. G. H. Schultz, of Lenswood, who strongly opposed the scheme, said that if growers had received a bonus of 2/- a case and been allowed to market their own fruit, thousands of cases would have been saved. He considered packing costs at least 2d. a case too high, and criticised "The army of inspectors chasing each other round the country."

That some form of control was necessary was stated by Mr. C. E. Filsell, of Forest Range. Three seasons ago, he said, South Australia had an export Apple surplus of about 500,000 cases out of a total crop of 1,250,000 cases, yet thousands of cases of Rome Beauties realised only 2/- a case. He said, however, that he did not favor the application of the acquisition scheme before March 1, as there was never any export trade before then, and the local market easily absorbed early varieties.

Mr. R. Hannaford, of Paracombe, suggested that it would be advisable to limit the annual Apple yield by destroying a large percentage of the estimated surplus in its initial stage of development, and Mr. J. Turner, of Blackwood, considered that the States should have more freedom to manage the marketing of their fruit.

## Tuesday, July 8.

Further evidence taken at Angaston.

Growers who appeared before the Committee agreed that if some form of marketing control had not been adopted by the Government, prices would have collapsed and most growers would have faced bankruptcy. It was generally admitted, however, that the scheme was somewhat cumbersome, and that payments for assessed fruit should be expedited.

Mr. L. G. Wishart, of Angaston, criticised the canneries for not handling more Pears this year, but he did not favor a suggestion that Duchess Pears should be excluded from the scheme and left to growers to handle. He also criticised the Board for sending out progress payments unaccompanied by any advice as to what quantity of fruit they were for or when it was delivered.

"The delay in paying for fruit after it has been delivered has placed many growers in an impossible position," said Mr. C. Thorn, of Angaston. "An enquiry should also be made regarding payment for packing. To expect any packer to provide his shed, undertake cartage, and pay wages the day they become due and then wait nearly five months for payment is not a fair deal.

Mr. H. F. Lock, of Angaston, supported the scheme, but considered that instead of growers being charged 1/- a case for fruit which they wished to dry, 8d. or 9d. would have been sufficient. He also felt that the Board had made a mistake in charging 3d. a case for windfalls, as this had tended to restrict the movement of this fruit and large quantities were left in orchards as harborages for pests and diseases.

Evidence was also given by Mr. M. Warnecke, of Nuriootpa, and Mr. M. W. Ellis, of Tanunda.

## Wednesday, July 9, 1941.

Mr. A. Cameron, M.H.R., who administered the Apple and Pear Acquisition Scheme when he was Minister of Commerce, from March to October last year, said that the abandonment of the scheme would mean placing the fruit on an uncontrollable market with resultant chaos and a complete collapse of prices. Regarding the problems of local marketing, Mr. Cameron pointed out that the Board had originally been constituted as an export authority and not to deal with local marketing. The Board had not been helped as it should have been by certain sections of growers, merchants, and exporters, and there was too great a tendency for people to look after their own selfish interests.

From monthly statements submitted to him, there was no indication that the scheme would incur a large financial loss for last season. He did not think the loss could have been foreseen by any Government.

One of the big problems to be faced was the need for a more

intensive exploitation of the home market. In the United States and Canada, said Mr. Cameron, Apples were more easily available to factory workers and school children than they were in Australia. A greater consumption of fruit juices to replace synthetic drinks at present marketed, should also be promoted.

Advocating the abolition of the scheme, Mr. W. Nicol, grower, of Uraidla, suggested the payment of a bounty of growers with the freedom of an open market and the limiting of production.

On behalf of the S.A. Fruit-growers' and Market Gardeners' Association Incorporated, the President, Mr. H. N. Wicks, submitted the results of a questionnaire among members. From the papers returned, 86 per cent. favored the control of Apple and Pear Marketing, 69 per cent. considered the scheme as applied to 1941 season as satisfactory, but only 29 per cent. were satisfied with the administration of the scheme during the season.

Mr. K. Coldicott, grower, of Lenswood, said that the scheme had provided growers with a reasonable return and had kept the industry intact as a national asset. The processing of fruit in registered sheds had established a standard pack which had greatly assisted sales.

Mr. H. R. Meyer, of Ashbourne, contended that growers had received sufficient money as a result of the scheme to pay their expenses and to carry on for another year.

## Thursday, July 10, 1941.

The South Australian State Apple and Pear Committee was greatly concerned about the delay in formulating a plan if one were to be formed to deal with next season's crop, the Chairman (Mr. M. J. Vickers) said. Growers were anxious to know, in view of the impending shortage of labor, whether they would be allowed to retain their men. It would seem unwise to permit growers to use manure wanted elsewhere to produce

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fruit which could not be marketed without a scheme. They should be encouraged to thin the crop and produce higher quality fruit from perhaps, a lower acreage field.

Control in this State had provided the public with fruit of a higher quality than ever before. Lack of normal cool-storage space had been a serious disability. Several metropolitan cool stores which had agreed to take Apples and Pears had been filled with preference food-stuffs for which shipping had not been available, and large quantities of fruit had been kept on orchard properties in common storage. The production of dried Apples had expanded 300 per cent., and 30 tons of three leading varieties of Apples had been supplied to a local firm for tests in the manufacture of alcohol. Factories had been encouraged to enlarge the output of cider, Apple juice and cider vinegar. Sales of Apple juice had been disappointing, but it was a valuable breakfast drink.

Mr. Vickers said it was incomprehensible that the price of Apples in South Australia should not be the same as in Victoria—3/- to 3/3 a case was the cost of production. There had been no undue delay in the payment for Apples and Pears.

The State Superintendent of the Apple and Pear Marketing Board (Mr. P. R. B. Searcy) also emphasised the urgency of a decision on the acquisition of the coming crop. There had not been any shortage of supplies to the market, he said. At present the retail prices were approximately the same as in normal years, and up to June 14 306,361 bushels had been sold—the largest quantity on record.

An alternative scheme of control was suggested by Mr. F. F. Redden, fruitgrower and grazier, of Cudlee Creek, who said he had more than 14,000 fruit trees—the largest orchard in South Australia. Having studied the operations during the year he was opposed to Government acquisition, for, he alleged, it led to waste of money, time, manpower and fruit. The surplus could be prevented by stripping portions of orchards and so ensuring a better crop the following year. The only Government control should be on the stripping, for which compensation would be paid. The cost per acre he estimated at £12/10/-, which, with £5 interest, the payment would be £17/10/- instead of about £105 per acre for full fruit production. Savings could be made in administrative costs, spraying and many other avenues, and there would be no waste fruit.

The President of the Housewives' Association (Mrs. M. E. Skitch) said the surplus of fruit should be supplied free by the Government to school children and charitable institutions. Additional cold storage was needed. Apples had generally been of better quality this year than in the past. There should be a consumers' representative on the Committee.

Mr. Brookman, M.L.C., said that if the acquisition scheme had not been adopted competitive selling would have ruined the industry. He praised the Committee for the way it had coped with difficulties, but he believed that the scheme had a weakness in that it endeavoured to apply one set of rules to all the States. Growers should be paid for the first-class varieties of Apples.

The President of the S.A. Fruit Marketing Association (Mr. J. B. Randell) said that a large majority of growers were in favor of the acquisition scheme. Delays in payment should be avoided and overhead costs minimised. Differing State rates should be introduced and waste avoided. There was also a shortage of storage space. Most growers wanted only fair remuneration for their efforts.

Mr. W. Queale, fruit merchant and exporter, said Apples and Pears should be made available at a reasonable price for export, so that markets in the East could be retained.

Mr. L. G. Heading, Chairman of the Wholesale Fruit Merchants' Association and Mr. W. Bigg, Secretary of the Association, said that the sixpence a case commission allowed to merchants was not sufficient to make handling payable.

Mr. L. J. Bishop, Fruit merchants' representative on the Committee, said that the South Australian Committee should be free of Melbourne dictation. South Australian merchants had co-operated in sales, and the scheme would be better if there were no outside interference.

Mr. A. D. Chapman, Chairman of Paracombe Fruit Growers' Co-operative Ltd., said 50 families in his district were entirely dependent on Apple and Pear growing, and the scheme had kept them on their holdings.

## The South Australian Fruit Marketing Association Incorporated

Report on Film Display at  
Adelaide on July 25.

IN lieu of the usual monthly meeting of the Growers' Sub-Committee and the Executive Committee, arrangements were made for films to be shown, and Mr. A. G. Strickland, Chief Horticulturist, arranged a most interesting and informative programme.

The first film shown was a sound film kindly loaned by the Rural Bank of New South Wales, and dealt with "Soil Erosion." The film showed very clearly the disastrous effects of denuding the country of timber and the urgent necessity for measures to be taken to prevent further damage being done. The second film, which was loaned by the Department of Agriculture of Victoria, dealt with Flax growing, and gave an excellent idea of the importance of this industry to the Commonwealth. This was followed by a film dealing with fruitgrowing in Canada.

A film entitled "From Seed to Fruit," photographed by Mr. H. N. Wicks, proved exceedingly interesting. This was a silent film, but Mr. Wicks kindly made explanatory comments, which increased the interest considerably. The film showed the clearing of the virgin land, ploughing, cultivating, etc., the planting of the seed from which stocks were obtained, planting out seedlings, trimming, pruning, etc., until the trees came into bearing.

Mr. Wicks stated that new methods were continually being introduced, and there was a

THE SOUTH AUSTRALIAN FRUIT MARKETING ASSN. INC.

August Meeting.

The August meetings of the Association will be held at the Secretary's office, 83/4 Brookman Buildings, Grenfell-street, Adelaide, on Friday, August 29, 1941.

Growers' Sub-committee commencing at 1.45 p.m. Speaker Mr. A. G. Strickland, Chief Horticulturist. Subject: "Primary Asco Spores."

Executive Committee meeting will commence at 2.45 p.m.

E. WHITFIELD MILLS,  
Secretary.

constant war against pests and weeds.

Useful information was also given in regard to spraying and irrigation methods, and the film concluded with some magnificent floral views.

The final film, also loaned by the Department of Agriculture, Victoria, dealt with Re-working of Fruit Trees; the different methods employed were shown and explained very clearly.

At the conclusion, the President, Mr. J. B. Randell, on behalf of the members, expressed their appreciation of the films shown and the useful and instructive information that had been given, and he moved a hearty vote of thanks to Mr. A. G. Strickland and Mr. H. N. Wicks, which was carried with acclamation.

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# 1940 Potato Crop Competition

## The Agricultural Bureau of S.A.

LOBETHAL BRANCH.

Judged by E. Leishman, R.D.A. (District Horticultural Adviser).  
(By C. G. Savage, R.D.A., Chief, Division of Horticulture.)

**T**HE interest in the Competitions is being well maintained, not only by the competitors but also by the growers throughout the district. Fifteen entries were received—5 more than last year. The season generally was favorable for Potatoes, although heavy late Summer rains encouraged the spread of Irish Blight in a few of the plots.

An interesting feature of the Competition has been the excellent crops harvested, the highest yield being at  $\frac{1}{2}$  acre rate 11 tons 1 cwt., and the lowest 6 tons 4 cwt.

The crops were judged in the growing period; at flowering time, to ascertain if the plants were true to variety and the extent of virus diseases. It is desired to place on record the excellent arrangements that were made for the organisation of the Competitions. Messrs. B. Schapel, L. B. Pfeiffer and E. W. Kerber are deserving of special mention in this connection.

### The Entries.

**A. D. Kerber, Woodside:** Variety—Up to Date. Grown on medium loam, fairly rich in organic matter and received 10 cwt. 45 super. per acre. First ploughing August 7, second September 24, third October 29 at planting. Machine planted on October 29 at a depth of 3 to 4 inches. Whole seed was used approximately 2 to 3 oz. in weight, not selected or dipped. Stored in cold stores. Cultivations after planting on December 6, December 18 and December 30. Irrigation by flooding four, no dates recorded by the competitor. An excellent, even crop showing slight virus affected plants, Common Scrub, Potato Moth and Irish Blight were present on a few tubers. Percentage of marketable tubers being 91.7 per cent.

**Ben A. Schapel, Lobethal:** Variety—Carmen. Grown on greyish loam and received 6 cwt. 45 super., 2 cwt. bonedust per acre. First ploughing September 1, second October, third November. After the third ploughing, harrowed and rolled a few days later.

Planted by hand on December 9 at a depth of 4 to 5 in. Small table grade seed, the large sizes cut. The seed was imported (Victoria) and not dipped. Stored in cold stores. Cultivated by harrowing when plants were 5 in. high, banked early January and cultivated after each irrigation.

Irrigated twice during the season by flooding. An excellent even crop, remarkably free from virus diseases. Tubers were particularly clean and good type. Percentage of marketable tubers 94.6 per cent.

**H. Schubert, Lobethal:** Variety—Carmen. Grown on greyish loam fairly rich in organic matter, and received 10 cwt. 45 super. per acre. First ploughing August 26, cultivated October 15, second ploughing October 28 and harrowed, cultivated November 27 and ploughed November 29 at planting. Planted by hand at a depth of 3 in. Cut seed was used approximately 4 oz., selected from imported seed (Victoria), planted 1939, and dipped before planting. Stored in shed. Cultivations after planting on December 27, January 3, and January 22. Irrigated by flooding three times. An excellent crop of clean good type tubers. Spotted Wilt and other virus diseases were in evidence in this plot. Percentage of marketable tubers 90.0 per cent.

**R. Lorke, Charleston:** Variety—Carmen. Grown on a dark-brown loam rich in organic matter and received 7 cwt. 45 super. per acre. First ploughing September 3, second September 27 and third November 20-28 before planting. Planted by hand at a depth of 4 in. Large Potatoes cut, average 4 sets, to the Potato. The seed was selected but not dipped. Stored in cold stores. Cultivation after planting on January 13 and January 18. Irrigated twice January 16 and February 19 by flooding. An excellent crop showing remarkably heavy top growth, the tubers were clean and of fairly good type. Spotted Wilt and other virus diseases were in evidence in this plot. Percentage of marketable tubers 94.4 per cent.

**B. Klau, Charleston—Plot No. 2:** Variety—Carmen. Grown on light loam and received 600 lb. of 45 super. per acre. First ploughing August 8, cultivated September 10, second ploughing October 24 and third November 19, at planting. Planted by hand at a depth of 4 in. The seed was cut, not selected or dipped. Stored in cold stores. Cultivations after planting on January 10 and February 3. Number of irrigations not given, but the method of application was flooding. An excellent, even and clean crop, showing slight virus affected plants, otherwise free from disease. Percentage of marketable tubers 95.4 per cent.

**B. Klau, Charleston—Plot No. 1:** Variety—Carmen. Grown on light loam and received 600 lb. of 45 per cent. super. per acre. First ploughing August 8, cultivated September 10, second ploughing October 24 and third November 19, at planting. Planted by hand at a depth of 4 in. The seed was cut, not selected or dipped. Stored in cold stores. Cultivation after

planting on January 10 and February 3. Number of irrigations not given, but the method of application was flooding. A very good, even crop showing slight virus affected plants, few tubers affected with Potato Moth. Percentage of marketable tubers 93.4 per cent.

**B. Pfeiffer, Woodside—Plot No. 3:** Variety—Carmen. Grown on light grey loam and received 9 cwt. 45 super. per acre, also stable manure, the amount not submitted by its competitor. First ploughing September and disc ploughed in November, third ploughing December 17 at planting. Planted by hand at a depth of 4 in. Whole and cut seed was used, mostly round  $1\frac{1}{2}$  in. in diameter. The seed was imported (Victoria) and not dipped. Stored in cold stores then greened under Pine trees prior to planting. Cultivation after planting on January 3, January 14, February 4. Irrigations by flooding; the full number applied not given by competitor. The top growth of this crop was excellent, but although the tubers were of good type, there was a fair percentage undersized. Evidence of Spotted Wilt and mild virus, but the tubers were practically free from Common Scab and Potato Moth. Percentage of marketable tubers 79.8 per cent.

**J. P. Kerber, Woodside:** Variety—Carmen. Grown on fairly heavy dark loam and received 10 cwt. of 45 super. per acre. First ploughing on August 28, second October 1, third seed was used approximately 2 in. in diameter. Seed was not selected or dipped. Stored in cold stores. Cultivations after machine on December 23 at a

depth of 4 in. Cut seed was used and not dipped. The seed was certified by the Victorian Department of Agriculture. Stored in cold stores. Cultivated after planting February 3. Irrigations by flooding; the full number applied not given by the competitor. A very good, even crop practically free from virus diseases, the quality and type of the tubers were high. Percentage of marketable tubers 92.6 per cent.

**A. Paech, Lobethal:** Variety—Carmen. Grown on light grey loam and received  $7\frac{1}{2}$  cwt. 45 super. per acre. First ploughing early September, second November 10 and third early December at planting. Planted by hand in early December at a depth of 3 in. Selected whole seed was used, but not dipped. Stored in shed thinly spread on wooden floor. Cultivation after planting the first and last week of January. Two irrigations were given by flooding up to February 25. A very good, even crop showing slight virus affected plants; the tubers were generally clean and of good type. Common Scab was slight. Percentage of marketable tubers 90.8 per cent.

**B. H. Graeber, Lobethal:** Variety—Carmen. Grown on medium loam and received 9 cwt. Woollana No. 2 per acre. First ploughing September 14 and 15, second middle of October, third December 16 at planting. Planted by machine on December 16 at a depth of 5 in. Cut seed was used approximately 2 in. in diameter. Seed was not selected or dipped. Stored in cold stores. Cultivations after planting January 20, February



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10 and February 14. Two irrigations were applied by flooding. Top growth was excellent and very even, but yield of tubers did not come up to expectations. Apart from the presence of a mild infection of Spotted Wilt this crop was fairly free from diseases. Percentage of marketable tubers, 85.4 per cent.

W. Kerber, Woodside: Variety—Carmen. Grown on a fairly heavy loam and received 10 cwt. 45 super. per acre. First ploughing September 2, second October 1, third October 28, and cultivated November 5. Final ploughing November 23. Planted by machine on November 23 at a depth of 4 in. Whole seed was used approximately 3 oz. in weight. Seed was own selection but not dipped. Stored in cold stores. Cultivations after planting on January 2 and 18. The number and areas of irrigations have not been submitted by the competition. Method of application was flooding. Top growth

was exceptionally heavy, but the yield was not up to expectations. Virus diseases, as Leaf Roll and Spotted Wilt were in evidence, and a number of the tubers were affected with Potato Moth and Scab. Percentage of marketable tubers 83.1 per cent.

W. D. Erdmann, Woodside—Plot No. 1: Variety—Carmen. Grown on heavy loam and received 7½ cwt. 45 super. per acre. First ploughing August 28 and 29, second October 9, and cultivated October 23. Final ploughing on November 29 at planting. Planted by hand on November 29 at a depth of 4 in. Whole seed was used, approximately the size of a hen's egg. The seed was certified by the Victorian Department of Agriculture. Stored in cold stores. Cultivations after planting January 20 and 30. Number and dates of irrigations not submitted. Method of applying the water was flooding. A very good even crop, showing a few

plants affected with Spotted Wilt. With the exception of very slight infection of Potato Moth the tubers were clean and true to type. Percentage of marketable tubers 86.2 per cent.

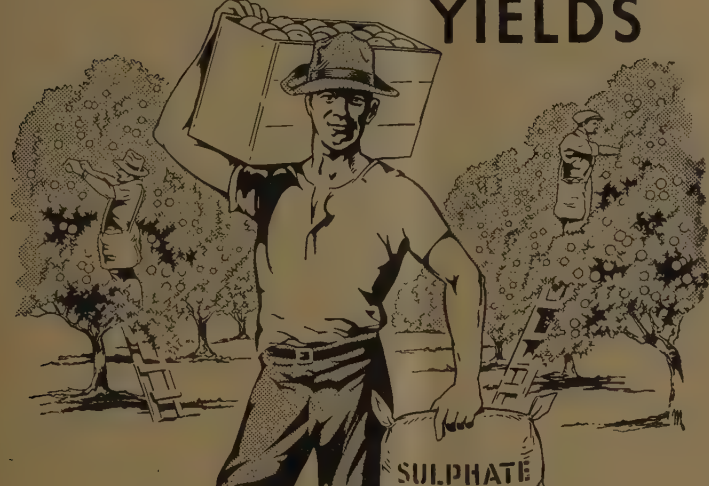
W. D. Erdmann, Woodside—Plot No. 2: Variety—Carmen. Grown on medium loam and received 7½ cwt. 45 super. per acre. First ploughing August 28 and 27, second October 9, and cultivated October 23. Final ploughing on December 16 at planting. Planted by hand on December 16 at a depth of 3 to 4 inches. Whole seed was used approximately the size of a hen's egg. Seed certified by the Victorian Department of Agriculture. Stored in cold stores. Cultivations after planting on January 20, February 5 and March 5. Irrigations were applied by flooding, but the number and dates have not been submitted. A very good even crop, showing a few plants affected by Spotted Wilt. With the exception of slight infection of Potato Moth, tubers were clean and true to type. Percentage of marketable tubers 85.6 per cent.

L. B. Pfeiffer, Woodside—Plot No. 1: Variety—Up to Date. Grown on chocolate loam and received 9 cwt. 45 super. per acre. First ploughing October, second by disc plough on Novem-

ber 1, third at planting December 5. Planted by hand at a depth of 3½ in. Seed selected and not dipped. Whole seed was used approximately 1½ in. in diameter. Stored in cold stores, right up to planting. Cultivations after planting on December 21, January 6 and January 28. Irrigations by flooding; the first was applied after the first cultivation. A very good crop, and tubers of good type. Evidence of Spotted Wilt and mild virus, and a few of the tubers affected by Potato Moth. Percentage of marketable tubers 83.9 per cent.

L. B. Pfeiffer, Woodside—Plot No. 2: Variety—Carmen. Grown on grey loam and received 9 cwt. 45 super. per acre. First ploughing September, second by disc plough, November 1, third December 23. Planted by hand at a depth of 3½ in. Whole seed was used 1½ to 2 in. in diameter. Imported (Victoria) seed not dipped. Stored in cold stores, then greened under Pine trees prior to planting. One cultivation on January 27. Irrigations not submitted by the competition. A number of "strangers" in this plot and from the promise of the top growth yield was disappointing. Tubers were of good type, but there were a number affected by Potato Moth. Percentage of marketable tubers 69.6 per cent.

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JUDGE'S AWARDS.

Name of Competitor.	Variety.	Yield per ½ Acre.			Marketing Tubers. %	Points.
		tons.	cwt.	lb.		
A. Kerber . . . .	Up to Date	11	1	53	91.7	35
E. H. Schubert . .	Carmen	10	10	75	90.0	33
B. Schapel . . . .	Carmen	9	19	97	94.6	31½
R. Lorke . . . . .	Carmen	9	3	74	94.4	29
B. Klau . . . . .	Carmen	8	14	53	93.4	27½
L. B. Pfeiffer . . .	Carmen	8	8	60	79.8	26½
E. W. Kerber . . .	Carmen	8	6	42	83.1	26
B. Klau . . . . .	Carmen	8	5	33	95.4	26
A. Paech . . . . .	Carmen	8	3	70	90.8	26
L. B. Pfeiffer . . .	Up to Date	3	0	109	83.9	25½
W. D. Erdmann . .	Carmen	7	16	12	86.2	24½
J. D. Kerber . . .	Carmen	7	13	106	92.6	24
W. D. Erdmann . .	Carmen	7	9	70	85.6	23½
B. H. Graeber . .	Carmen	7	8	1	85.4	23
L. B. Pfeiffer . . .	Carmen	6	4	27	69.6	19½

TOTAL POINTS AWARDED.

Name of Competitor.	Yield.	Quality.	Type of Purity	Freedom from Disease.	Freedom Weeds and Evenness.	Total.	Fertilizers Rates/Acre.
A. D. Kerber . . .	35	20	15	15	15	100	45 super 10 cwt.
B. Schapel . . . .	31½	18	13	14	14	90½	(45 super 6 cwt.) (Bonedust 2 cwt.)
E. H. Schubert . .	33	17	13	12½	14	89½	45 super 10 cwt.
R. Lorke . . . . .	29	18	13	13	14	87	45 super 7½ cwt.
B. Klau . . . . .	26	18½	14	14	14	86½	45 super 600 lb.
B. Klau . . . . .	27½	18	14	12	14	85½	45 super 600 lb.
L. B. Pfeiffer . . .	26½	15½	14	13½	14	83½	45 super 9 cwt. + Stable Manure.
J. D. Kerber . . .	24	17½	12	14	14	81½	45 super 10 cwt.
A. Paech . . . . .	26	17	12	12	14	81	45 super 7½ cwt.
B. H. Graeber . .	23	16	14	14	14	81	Wooltana No. 2 9 cwt.
E. W. Kerber . . .	26	16	13	11	14	80	45 super 10 cwt.
W. D. Erdmann . .	24½	16	12	13	14	79½	45 super 7½ cwt.
W. D. Erdmann . .	23½	16	13	13	14	79½	45 super 7½ cwt.
L. B. Pfeiffer . . .	25½	16	12	12	14	79½	45 super 9 cwt.
L. B. Pfeiffer . . .	19½	13	11	10	14	67½	45 super 9 cwt.



# The SUNMASSEY

## Orchard Cultivator

is an outstanding implement for killing weeds  
and conserving moisture

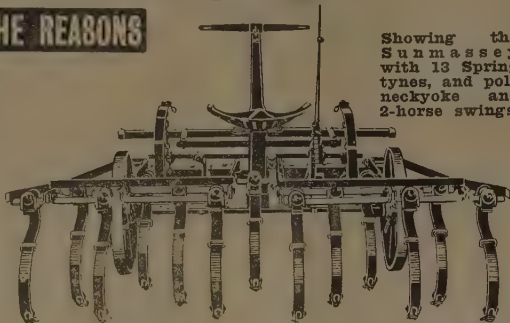
### SOME OF THE REASONS

Has "C" type pressure springs—points can be made to penetrate hard ground.

Will work well under overhanging branches.

The two floats (hinged to front frame member) are extra long—a great advantage in raising and lowering.

Pull can be regulated so as not to place any weight on the horses' necks.

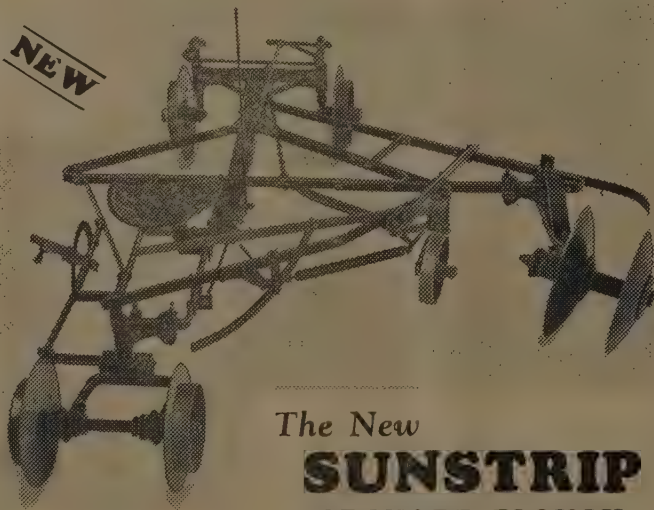


Showing the Sunmassey with 13 Spring tynes, and pole neckyoke and 2-horse swings.

#### SIZES:

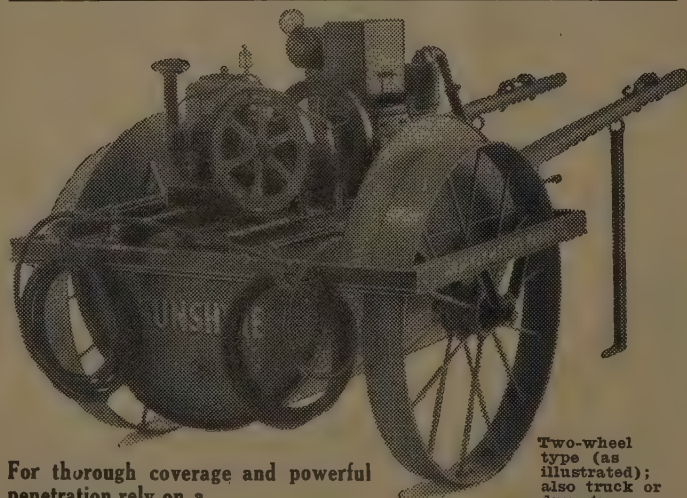
7-tyne	3ft. 4ins. cut
9-tyne	4ft. 4ins. cut
11-tyne	5ft. 4ins. cut
13-tyne	6ft. 4ins. cut

Spring or rigid tynes. Pole or fore-carriage. (When fitted with rigid tynes and 11 inch points it is an ideal lucerne renovator.)



## The New SUNSTRIP ORCHARD PLOUGH

The ideal implement for cutting close to trees. Excellent clearance for working under low branches. The front and rear wheels (or coulters) are independently steered by hand levers giving quick clearance around the tree trunks, without the team deviating from a straight course. Discs are 20in. and 22in., and each cuts about 8in. wide and to a depth of 4in. to 5in. The disc gang can be adjusted for breastcut and undercut. The depth regulating wheel (lever adjusted) is close to discs to give maximum control. Excellent penetration in weed growths.



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## Sunshine Sprayer

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## Value of Organic Matter and Nitrogen in Preventing the Loss of Fertility in Orchard Soils.

BY C. G. SAVAGE, R.D.A., CHIEF, DIVISION OF HORTICULTURE, N.S.W. DEPT. OF AGRICULTURE.

Address Delivered at Annual State Conference of the Agricultural Bureau of New South Wales, July 15-18, 1941.

THE PROBLEM of maintaining an adequate supply of organic matter in orchard soils presents many difficulties. The loss of soil organic matter is accentuated by continued cultural operations and excessive aeration.

The question of applying organic matter to the soil to maintain and if possible increase the humus content of the orchard soil should be given very serious consideration from the earliest years of planting.

Where clean culture is continually practised serious depletion of the organic matters accrue, which has a very marked effect upon the mechanical condition of the soil. Loss of tilth occurs, the soil tending to form clods, and drainage conditions become unfavorable. Plants may suffer from nitrogen starvation as the nitrogen content of the soil cannot be kept at a satisfactory level if the humus content of the soil becomes very low. Water will not percolate through the soil in a satisfactory manner, thus soils may become temporarily waterlogged in very wet periods and will dry out rapidly in dry periods.

In soils which are low in organic matter the application of fertilizers will be more or less ineffective.

### Humus.

It is the lightest of the soil constituents. Soils rich in humus are lighter than soils deficient in organic matter, therefore, are easier to work. Humus tends to bind sandy soils and open clay soils, therefore, has a great influence on soil structure. Has value in absorbing and retaining moisture, which is a very valuable attribute in most districts, especially where dry spells are experienced during the hot Summer months.

The unhumified plant debris in the soil must not be considered of little value other than their potential conversion into active humus as:—

It renders soil more pervious to air and water.

In the process of decay carbonic gas is given off, which assists in soil-decomposition, making insoluble plant food available.

It serves as nourishment to soil bacteria which are beneficial to plant growth.

Sources of Supply of Organic Matter.

Animal Manures: Where available liberal dressings of stable, cow, sheep and other animal manures will give valuable returns. The rate of application will be limited by the quantity of manure available, but dressings up to and even above 5 tons per acre will be found advantageous.

The value of the animal manure is often greatly depreciated by the carelessness displayed around the stables and yards. The manure in many instances is not collected regularly and stored, but is allowed to lie about exposed to the sun and rain, the urine is also allowed to run to waste. By the proper stacking of the manure, the collection of the urine and adding it to the manure will more than repay the extra trouble and expense incurred.

If the manure cannot be stacked, then clean the stables and yards regularly and spread the manure on the orchard.

Compositing: The value of the compost heap was recognised many centuries ago.

Roman practice was described by Marcus Cato about 234-149 B.C. Cato urged the farmer to collect all his crop wastes, leaves and weeds from the hedgerows, ferns and sweepings, and mix all these with sewage and straw in a pit, taking care to "bury a piece of oak wood in the midst of this compost for that will prevent venomous snakes from lurking in it."

The making of synthetic stable manure might also be given very serious consideration.

All waste organic matter should be collected and composted with the stable manure either in a heap or a pit, and as it decays it should be spread over the orchard.

Green Manure Crops: The supply of stable manure and also of compost will not be sufficient to supply the organic matter required for orchard lands, therefore other means of maintaining the organic matter in the soil must be undertaken.

The growing of green manure crops is the most practical method of carrying this out.

The growing of green crops may be difficult in some orchards, especially in districts where the Autumn and Spring rains are erratic; in the first instance early and satisfactory germination of the seed may not be obtained, in the second difficulty may be experienced in the Spring in turning the green crop under, as the soil will dry out rapidly with the rising atmospheric temperatures.

In such cases the growing of green crops away from the orchard where land is available for the growing of the crops,

**PATENTS**  
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HEATHY HOUSE, 499 LITTLE COLLINS ST.  
MELBOURNE.



and the cutting of the green stuff and spreading it on and ploughing it into the soil of the orchard during the Winter months is advocated.

All classes of green crops are valuable as green manure—cereals, legumes, grasses and weeds all have their value.

Generally the green manure crop should be sown in late Summer or early Autumn and grown through the Winter. To obtain the maximum benefit plough the crop under while it is still in the succulent stage.

Apply liberal dressings of phosphatic manures with the seed to induce heavy growth in the green manure crops.

If green manure crops are not sown, cease cultivation by late Summer and apply a fairly heavy dressing of superphosphate to the soil, say 3 cwt. per acre, to encourage the growth of a volunteer green crop.

Of all the crops, legumes are the most desirable, as by the agency of bacteria living on the roots of the plants, nitrogen is obtained from the air; this nitrogen in the course of time, as the green manure decomposes, becomes available to the plants.

To improve the mechanical condition of the soil and maintain soil fertility in districts of heavy rainfall and where irrigation is practised, investigations are being conducted in growing of fruit crops under permanent green cover. In districts of good rainfall a partial system of cover cropping may be found advantageous. Care must be taken to see that the fruit trees do not suffer through lack of nitrogen and moisture. Liberal dressings of nitrogen will be required during the growing periods of the trees and care must be given to see that the trees are given sufficient water. Top dressings of superphosphate can be given to encourage the growth of the green cover crops.

Frequent mowings of the cover crops should be carried out during the year while the plants are in the succulent stage; this will allow the green mulch to rapidly decay and it will also reduce the loss of soil moisture

by transpiration through the leaves of the cover crop plants.

#### Importance of Nitrogen.

In most of the investigations carried out with the manuring of fruit trees, the predominating fertilizing element which has given the most striking results has been nitrogen. While this is true under certain conditions, the balance with other nutrient elements may be upset. To obtain satisfactory results three of the so-called "balances" or "nutrient ratios" must be considered. These are known as the nitrogen/potassium, potassium/magnesian and potassium/iron ratios. If any of these ratios are too wide then symptoms of deficiency of the element shown below the line in each case will result.

Bearing these factors in mind the grower, with the aid of the District Fruit Inspector, can determine by experimentation what nutrients are required.

Generally speaking, as previously mentioned, nitrogen will be found in most cases to give good results when applied to fruit trees.

The two main artificial fertilizers containing nitrogen are sulphate of ammonia, which has about 21 per cent. N., and nitrate of soda, with 16 per cent. N. In bone-dust there is approximately 3.25 per cent. N., and in blood bone and offal 5.25 per cent. N., and dried blood 12 per cent.

Owing to war conditions the importations of sulphate of ammonia and nitrate of soda have been seriously reduced. As the quantity of sulphate of ammonia produced in Australia is not sufficient to meet Australian demands, a serious position has arisen. With short supplies and heavier shipping costs, prices have increased.

Too much emphasis cannot be placed on the necessity of taking every care to conserve and use to the best advantage all materials which will supply both nitrogen and organic matter to the soil. On the use that the orchardist makes of the supplies of these commodities that he is able to handle will depend the fertility of the soil and the returns from his orchard.



Prize winning shop window in Apple & Pear Marketing Board's Competition. (Embassy Fruit Palace, Glenferrie Rd., Malvern, Vic.).

#### NEW SOUTH WALES ORCHARD FEE.

##### Vote of Growers Against Continuance.

New South Wales fruit-growers have decided against the continuance of orchard registration by a majority of 554 votes in a poll of 8,474.

When counting ended on August 1, the returning officer, Mr. J. R. Butler, legal officer of the Department of Agriculture, announced that 4,471 had voted against and 3,917 for continuance.

Although 14,170 ballot papers were issued, only 8,474 were returned, and of these 86 were informal.

The figures showed that growers with less than two acres, 1,267 voted against, and 765 for continuance of registration—a majority of 502 against. Of growers with two acres or more, 3,204 voted against and 3,152 for the continuance—a negative majority of 52.

Under the Act, orchardists were required to pay 1/- an acre to a fund from which the Minister made grants to further the interests of the industry. The principal grant was to the Fruit-growers' Federation, which was carried on solely by means of it.

The President of the Federation, Mr. W. B. MacKenzie, of Kurrajong, said on August 1, that an analysis of the figures

indicated that a very large section of growers were anxious that the Federation should continue to exist. They seemed to show that the small non-commercial orchardists—growers of three acres or less—brought about the defeat. — "Sydney Morning Herald."

#### CANNED PINEAPPLE JUICE.

##### Hawaii Needs Nine Factories.

The Pineapple industry has always been a large one in the Hawaiian Islands, and now nine factories are required to handle the fruit. It is indicative of the trade, however, that Pineapple processing comprises 99 per cent. of the trade, only 1 per cent. being sold as fresh fruit. Last year, for instance, Hawaii sold 596,000,000 lb. of canned fruit and 284,000,000 lb. of Pineapple juice to U.S.A.

The industry employs 8,475 persons, who earn £1,809,300 per year, while the industry is valued, in production, at about £16,000,000 per year.

"BAY VIEW" PICKING BAG  
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FRUIT.  
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CORRESPONDENCE INVITED.  
CABLES: "SEGURO," LIVERPOOL.

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THROUGHOUT GREAT BRITAIN FOR ASSOCIATIONS  
OR GROUPS OF GROWERS OR PACKERS.

Members of  
The National Federation of Fruit and Potato Trades Ltd.

The Liverpool Fruit Importers Association Ltd.



BUDDING AND GRAFTING —  
(Continued from Page 8).

AFFINITIES BETWEEN  
SCION AND STOCK.

Deciduous.

ALL FRUIT TREES can be budded or grafted; but these operations will be successful only if a near botanical relationship and a close affinity exist between the constitution of the scion and that of the stock. If the union and the subsequent performance are satisfactory the varieties used as scion and stock are said to be **compatible**, and if unsatisfactory, they are termed **incompatible**. It is not always possible to predict whether varieties will be compatible. In many cases an actual trial is necessary to decide this point. There is such a large number of varieties of each kind of fruit, that the affinities of all the possible combinations, in all probability, never will be fully investigated. However, many combinations of varieties and kinds of fruit have been made, and as a result of these trials much knowledge on compatibility has been accumulated (see footnote).

The grower who is faced with a re-working programme will require to know whether the scion varieties he intends to use will be compatible with his existing varieties (stocks).

Generally speaking, a variety of one kind of fruit tree is compatible with another variety of the same kind of fruit tree, e.g., scions of **Jonathan** (or any other variety of Apple) can be successfully worked on to **Rymer** (or any other variety of Apple). Similarly, one variety of Peach is compatible with another variety of Peach, and so on.

It is possible, also, in many instances, to bud or graft a variety of one kind of fruit on to a variety of a **different** kind of fruit, e.g., some varieties of Pear can be worked on to any variety of the common Quince; most Almond varieties on to any variety of Peach; and most Apricots on to any variety of European Plum. Most varieties of Pears are dwarfed when worked on to Quince stock, but a few varieties succeed fairly well. (See accompanying table.)

The following table of affinities will serve as a guide to the grower who desires to work or to re-work any of his trees. Where kinds of fruit are omitted as scions, they can be generally regarded as being incompatible with the particular stock. In some instances, partial success has been obtained with some combinations, and in others the results have been variable. In this table, both of these results have been classified as unsatisfactory.

FRUIT BUYERS

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PEARS, PEACHES, APRICOTS,  
BERRIES, CHERRIES.

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**A**ffinities in Citrus.  
MOST VARIETIES OF SWEET ORANGE, sour Orange (Sevilles), Mandarin, Lemon and Grapefruit can be worked in any combination with good results. Trifoliolate Orange (Poncirus trifoliata) has proved to be a dwarfing stock. Valencia Late Orange and some Mandarin varieties are more satisfactory than other varieties of citrus on this stock. The growth of about 10 per cent. of Washington Navel Orange trees budded on P. trifoliata appears to be much better than the growth of the remaining 90 per cent. of the trees, suggesting that this stock is rather variable.

With the exception of the Maltese variety of Blood Orange, citrus varieties are compatible with the rough Lemon or Citronelle (C. limonia) stock.

In Victoria, very successful results have followed the re-

working of Beauty of Glen Retreat, Early Imperial and Scarlet Mandarin trees, growing on rough Lemon root-stock, to Valencia Late Oranges. Many "off-type," so-called Australian and dry strains of Thompson's Improved Navel Orange trees have all been successfully re-worked to Washington Navel and Valencia Late Oranges and Marsh Grapefruit.

Tools.

Only a few tools are necessary for the budding and grafting operations, but it should be remembered that good tools in first class condition will result in quicker and better workmanship. The tools commonly used are secateurs, budding and grafting knives, chisels, mallet, "needle," hammer and splitter (for making the cleft in the stock).

Suitable types of budding and grafting knives are shown in Fig. 4. The grafting knife

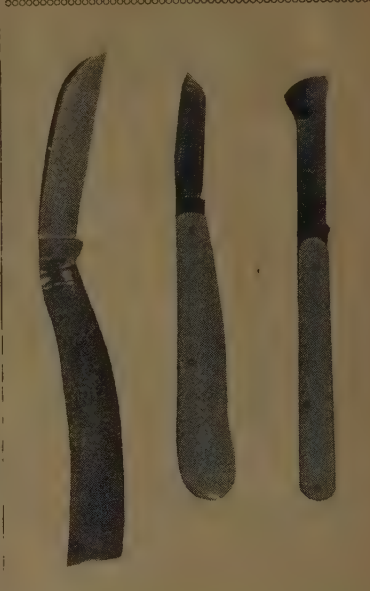


Fig. 4.—Left, a grafting knife. Right, two types of knives used for budding.

TABLE OF AFFINITIES.

Existing Tree (Stock).	Scion.	Remarks.
Apple . . . . . (Pyrus Malus)	Apple (all varieties) . . . . .	Compatible
	Quince (all varieties) . . . . .	Not used, probably unsatisfactory
	Pear . . . . .	Unsatisfactory
Pear . . . . . (Pyrus communis)	Apple (all varieties) . . . . .	Unsatisfactory
	Pear (all varieties) . . . . .	Satisfactory
	Quince (all varieties) . . . . .	Not used, probably unsatisfactory
Quince . . . . . (Cydonia vulgaris)	Apple (all varieties) . . . . .	Not used, probably unsatisfactory
	Pear . . . . .	Variable. Satisfactory varieties on this stock are Glou Morceau, B. Hardy, Doyenne du Comice, and Conference. Other Pear varieties are decidedly dwarfed by Quince
	Quince (all varieties) . . . . .	Satisfactory
Peach and Nectarine . . . . . (Prunus Persica)	Loquat (all varieties) . . . . .	Satisfactory, slightly dwarfed
	Medlar (all varieties) . . . . .	" " "
	Peach (all varieties) . . . . .	Satisfactory
	Nectarine (all varieties) . . . . .	"
	Almond (all varieties) . . . . .	"
	Apricot (all varieties) . . . . .	"
Plum—European . . . . . (Prunus domestica)	European Plum . . . . .	King Billy, Angelina Burdett, and Clyman are satisfactory varieties. Grand Duke, Diamond, and President are sometimes satisfactory. Other varieties are untested
	Japanese Plum (all varieties) . . . . .	Satisfactory
	Peach (all varieties) . . . . .	Unsatisfactory
	Nectarine (all varieties) . . . . .	"
	Almond (all varieties) . . . . .	"
	Apricot (all varieties) . . . . .	Satisfactory
Plum—Japanese . . . . . (Prunus salicina)	European Plum (all varieties) . . . . .	"
	Japanese Plum (all varieties) . . . . .	"
	Cherry (sweet) (all varieties) . . . . .	Unsatisfactory
	Peach (all varieties) . . . . .	Unsatisfactory
	Nectarine (all varieties) . . . . .	"
	Almond (all varieties) . . . . .	"
Cherry (Sweet) . . . . . (Prunus Avium)	Apricot (all varieties) . . . . .	Satisfactory
	European Plum (all varieties) . . . . .	Unsatisfactory
	Japanese Plum (all varieties) . . . . .	"
Cherry (Sour) . . . . . (Prunus cerasus)	Peach (all varieties) . . . . .	Unsatisfactory
	Nectarine (all varieties) . . . . .	"
	Almond (all varieties) . . . . .	"
Apricot . . . . . (Prunus Armeniaca)	Apricot (all varieties) . . . . .	Satisfactory
	European Plum (all varieties) . . . . .	Unsatisfactory
	Japanese Plum (all varieties) . . . . .	"
Almond . . . . . (Prunus Amygdalus)	European Plum (all varieties) . . . . .	Unsatisfactory, results variable
	Japanese Plum (all varieties) . . . . .	Unsatisfactory
	Peach (all varieties) . . . . .	Unsatisfactory
	Nectarine (all varieties) . . . . .	"
	Almond (all varieties) . . . . .	Satisfactory
Walnut . . . . . (Juglans regia (English)) (J. Californica var. Hindsii) (J. Californica) (Paradox (hybrid)) (Royal (hybrid))	Apricot (all varieties) . . . . .	Unsatisfactory
	European Plum (all varieties) . . . . .	Unsatisfactory, results variable
	Japanese Plum (all varieties) . . . . .	Unsatisfactory
	Peach (all varieties) . . . . .	Unsatisfactory
	Nectarine (all varieties) . . . . .	"
Walnut (J. regia) (all varieties)	Almond (all varieties) . . . . .	Satisfactory
	Apricot (all varieties) . . . . .	"
	European Plum (all varieties) . . . . .	"
	Japanese Plum (all varieties) . . . . .	"
	Peach (all varieties) . . . . .	"





Fig. 5.

Fig. 5.—A gouge and two chisels used for gouge and peg grafting respectively. Right: Side view of chisel blade showing special bevels.  
Fig. 6.—Shortened packing needle inserted into an awl handle.  
Fig. 7.—Splitter used for cleft grafting.



Fig. 7.

should have a strong, straight or slightly curved blade about 2½ in. long. This blade should be sharpened on an oil stone, until it has a keen, flat-ground surface. The budding knife blade is usually 1¾ inches to 2 inches long and not more than ½ inch wide, and should be sharpened in the same manner as the grafting knife. The back of the blade, or the end of the handle, of a budding knife is made so that it can be used for lifting the bark from the stock.

In Fig. 5 are shown ¼ in. and ⅜ in. chisels for use in peg grafting. These chisels are specially ground to ⅜ in. level on front and back, making them wedge-shaped. Also in Fig. 5 is shown a ¼ in. gouge used for the gouge graft. New gouges will require sharpening before use.

The "needle" (see Fig. 6) is a converted 5½ in. packing needle. It is made by cutting off about a ¼ inch of the point,

sharpening the squared end, and then removing about 2 inches of the eye-end of the needle. The shortened needle is then inserted into a handle.

A splitter is a tool, made of iron or steel, with a 6 in. blade, and a narrow continuation in the form of a wedge. (See Fig. 7).—"Victorian Journal of Agriculture."

References:

- 1. East Malling Annual Report for 1939, p. 83.
- 2. Söding. H. Hort, Abs. IX. No. 1, Mar., 1939.
- 3. Evenari M. and Konis E. Hort, Abs. IX. No. 1, March, 1939.

(To Be Continued.)

†Some grafters refer to this graft as an inverted "L" (1), but from the operator's view-point the cut made in the bark is L-shaped.

\*For a good review of the literature dealing with the formation of graft and bud unions, and compatibility (which will be referred to later), the student is referred to the Imperial Bureau of Fruit Production, Technical Communication, No. 9, by G. K. Argles.

ARTIFICIAL COLORING OF CITRUS FRUITS.

Should Only Be Used to Improve the Appearance of Mature Fruit.

THE ARTIFICIAL COLORING of citrus fruits is deprecated by Mr. R. J. Benton, of the N.S.W. Department of Agriculture. He states that its practise is only advisable when the otherwise mature fruit lacks an attractive appearance because of too much green on the skin.

Because of the shortage of ethylene, particulars were given for the use of acetylene. He then continues:—

Other Coloring Agents.

There are many other coloring agents, of which those most readily available are the gases from kerosene lamps and oil engines. Each of these contains some ethylene, which can also be obtained from certain mature fruits—notably Apples. Some growers have reported success in hastening coloring of citrus fruit by merely placing an Apple of high aroma in the centre of a case of Lemons.

If use is to be made of gases from kerosene lamps or oil engine exhausts, generation of such gases should take place at a location well removed from the coloring chamber, and the gases be introduced through a sufficient length of iron piping to minimise risk of fire, and precautions are necessary to avoid

any undue deposit of carbon. With these safeguards the coloring of fruit can be satisfactorily accomplished by the combustion of oil, the gases from which are used in a similar manner to ethylene or acetylene.

DRIED FRUITS QUOTAS.

The Consultative Committee of State Dried Fruits Boards at a recent meeting recommended the adoption of the following revised home consumption quotas for the year 1941:—

- Currants: 20 per cent., increased from 17 per cent.
- Lexias: 33 per cent., increased from 20 per cent.
- Peaches: 100 per cent., increased from 65 per cent.
- Apricots: 90 per cent., increased from 60 per cent.
- Nectarines: 100 per cent., increased from 95 per cent.
- Pears: 100 per cent., increased from 45 per cent.

The present quotes for dried Sultanas (14 per cent.) and dried Prunes (100 per cent.) are unchanged.

The quotas represent the proportions of the production of the several varieties of dried fruits which may be lawfully marketed within each State.

The N.S.W. Dried Fruits Board has recommended to the Minister for Agriculture that quotas be promulgated accordingly.

Similar recommendations have been made in the other producing States.

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## Motor Notes

### FARM TRACTORS.

Motor power is now very largely used by primary producers. A few hints will be helpful.

The first thoughts in the care of the motor must be correct lubrication and suitable fuel. Do not overload. Where an engine is scheduled to develop, say, 25 b.h.p., do not load to the limit on all occasions. Overloaded tractors will soon develop trouble. Come down a gear rather than make the motor strain every ounce to do the job on top gear.

Keep the engine cool. Overheating is bad business: this can be caused by incorrect carburettor adjustment, weak or late ignition, worn valves and

piston rings, choked radiators or slipping fan belts.

Take down and clean the magneto occasionally. Reassemble carefully and pack the bearings with vaseline. The breaker points should be adjusted to about 1-32 in. gap (a little wider with spark plugs). For cleaning the distributor never use emery paper—a clean rag dipped in petrol is all that is required.

Keep piston rings in good order. Worn rings cause lots of trouble; they waste oil and spoil the ignition.

Keep bearings well oiled and change oil regularly.

Here are a few "economy" suggestions from the official journal of the Royal Automobile Club of Victoria:—

**Engine:** Ensure that the compression is ample and even in every cylinder, the ignition system in first-class condition and correctly timed, and the carburettor tuned to perfection.

**Engine Temperature:** For Winter driving, cover portion of the radiator core to obtain correct operating temperature.

**Fuel Pump:** Have delivery checked to ensure that high pump pressure does not cause carburettor flooding.

**Fuel System:** Inspect all petrol pipes and connections for signs of leakage.

**Brakes:** Ensure that brakes are not binding. Do not let the car stand overnight or for lengthier periods with the hand brake applied.

**Tyre Pressures:** Have tyres at recommended pressure at all times.

**Idling:** Rigidly avoid excessive idling.

**Short Runs:** Avoid short runs and city driving wherever possible.

**Rapid Acceleration:** Causes a terrific wastage of petrol. Accelerate smoothly and gradually at all times.

**High Speed:** The most economical speed range is between 28 m.p.h. to 35 m.p.h. With increased speeds fuel consumption rises rapidly.

**Lubricants:** Use the recommended grade of oil for engine and transmission according to season.

**Starting:** Learn to start engine quickly by correct handling of controls.

**Gear Changing:** Avoid excessive speed in low and second gear. Change from first at 8-10 m.p.h., and from second to top at 15-20 m.p.h.

**Coasting:** Coasting with the engine switched off may be indulged in on long, moderate grades. On steep or winding hills it is inadvisable.

**Stopping:** Coast to a stop with the engine off wherever possible.



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# Market Notes and Prices

## NEW SOUTH WALES.

### Sydney City Municipal Markets, (30/7/41).

Apples continued to be lightly stocked throughout the period and rates were about 1/- per case higher prior to closing. Interstate Jonathan, Delicious and Rome Beauty comprised the main supply of dessert varieties, although some Crofton and Democrat packs were available. Granny Smiths served the dual purpose of a cooking and eating Apple, and both local and Tasmanian lots sold steadily.

Supplies of Pears were much lower and prices of all lines advanced.

Demand for Navel Oranges improved and values generally were firmer. Supplies from coastal districts were much lighter than those received during the early part of the month. Consignments from the Murrumbidgee Irrigation Area were only moderate and most lines cleared satisfactorily.

Choice Mandarins were somewhat scarce on occasions and values were firm throughout the period. Other descriptions were slow to clear, and some lots sold cheaply.

Demand for Lemons continued to be dull and prices remained unchanged.

Consignments of Pineapples amounted to about 4,000 cases. Inquiry generally was slow and, apart from a few selected brands, values were steady at 7/- to 9/- per case.

Papaws were fairly plentiful, but a large proportion was not sufficiently forward in maturity to enable ready sales to be effected.

The market for Bananas was very firm early, but, towards closing, there was a weaker tone and values eased slightly.

Fairly heavy supplies of Queensland Strawberries in packets and trays reached the market each alternate day. Well colored berries generally met a good inquiry, but lines

lacking color were difficult to sell.

Ruling rates are:—

**Apples:** Local Delicious 12/- to 16/-, Democrat 7/- to 10/-, Granny Smith 7/- to 13/-, Rome Beauty 7/- to 12/-, Interstate Jonathan, Crofton and Delicious 8/- to 12/-, large Democrat 7/- to 9/-, Rome Beauty 8/- to 10/-, and Granny Smith 7/- to 10/- per case.

**Pears:** Packham's Triumph 7/- to 14/-, Josephine 8/- to 12/-, Winter Cole 8/- to 14/-, and Interstate Josephine 7/- to 10/- per case.

**Bananas:** Nines and Eights 18/- to 20/-, Sevens 16/- to 18/-, Sixes 13/- to 15/-.

**Papaws:** 6/- to 8/- (few higher).

**Pineapples:** 7/- to 9/- per tropical case.

**Oranges:** Navel, Coastal 5/- to 7/-, specials 8/-; Irrigation 5/- to 8/- per case and 9/- to 14/- per crate, Common 3/- to 4/-.

**Lemons:** Coastal, 3/- to 6/-, Irrigation 5/- to 7/-.

**Mandarins:** Emperor 2/- to 6/-, specials 7/- to 9/-.

**Grapefruit:** Coastal 3/- to 7/-, Inland 7/- to 8/-, specials higher, per case.

**Passionfruit:** 3/- to 9/- per half-case.

**Strawberries:** Queensland 6/- to 12/- per dozen packets (specials dearer), and 2/6 to 5/- (few higher) per tray.

**Jam Melons:** 2/6 to 4/- per cwt.

## SOUTH AUSTRALIA.

**Adelaide:** The S.A. Fruitgrowers and Market Gardeners' Association Incorp., report under date July 30, as follows:—

Vegetables had a ready clearance on Wednesday's market, all lines being well picked up. Beans were dearer, otherwise quotes were unaltered. Navel Oranges were cheaper for some counts, otherwise fruit quotes were unchanged.

The undermentioned quotes are for f.a.q. cases being extra except where stated.

**Vegetables:** Beans (French), 9/-, 10/- doz. lb.; Beetroot, 1/6 doz.; Brussels Sprouts, 4/- doz. lb.; Cabbages, 3/- to 6/- doz.; Carrots, 3/- doz. bchs.; Cauliflowers, 6/- doz.; Celery, 3/-, specials 3/6 doz. heads; Leeks, 2/- doz.; Lettuce, 1/6, 2/- doz.; Onions (Brown), 14/-, 15/- cwt.; Parsnips, 2/- doz. bchs.; Peas, 10/-, 13/- bushel; Potatoes, 5/- cwt.; Rhubarb, 1/6, Cherry 2/- doz. lbs.; Tomatoes, 15/- to 17/- ½ case; Trombones, 8/- cwt.; Turnips, 2/-, (Swedes) 2/-, 2/6 doz. bnchs.; Triangles, 8/- cwt.

**Fruits:** Apples, G. Smith, 5/6, 8/- case; Del., 7/-, 8/-; Jon., 6/-; Cleos., 4/6, 6/-; Romes, 5/-, 6/-; Londons, 5/-; Statesman, 4/6, 5/6; Democrat, 5/6 case. Pears: Swan Egg 10/-; Josephine 11/-, B. Deil 10/-, Winter Cole 14/-, Winter Nelis 10/-, L'Inconnue 14/-, Madame Cole 10/-, Mandarin: Dancy, 10/-, 12/-, others 8/-, 10/-, Navel (75) 6/-, 6/6; (84) 6/6, 7/-;

(96), 7/-, 7/6; (112) 8/-; (126) 8/6, over 126, 9/-, 9/6. Grape Fruit, 7/-, 8/-, Lemons, 5/-, Bananas, 22/-, 24/-, Pineapples, 12/-, 14/-.

## VICTORIA.

**Melbourne, 4/8/41:** Apples, eating 6/- to 9/6, few special Delicious higher; cooking 5/- to 7/-, few special Granny Smith higher. Oranges, Navel, 5/- to 12/-, according to counts, few specially selected higher. Lemons, average standards, 6/- to 8/-; good standards, to 10/-; selected, to 11/-, few special higher. Grapefruit, 6/- to 12/-, few special to 14/-. Mandarins, 6/- to 14/-, few specially selected higher. Strawberries, Queensland, 1/3 to 1/6 box. Pears, dessert, Packhams, 8/- to 10/-; culinary, 5/- to 7/6. Papaws, Queensland, 12/- to 16/- double case, few special higher. Bananas, Qld., green, 6's 11/- to 16/-, 7's 16/- to 18/-, 8's and 9's 18/- to 20/- double case, few special higher. Pineapples, Qld., 8/- to 12/- double case, few higher. Passionfruit, 5/- to 10/- half-case, few higher.

## INTERNATIONAL APPLE ASSOCIATION.

The Annual Convention of the International Apple Association is being held this year in Toronto, Canada.

The dates are from August 5 to 8. Many important items are listed for discussion, and social events are included.



Licensed Farm Produce Agent

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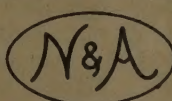
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## Producers' Co-operative Distributing Society Ltd.

Are now paying a Bonus of 15% on all Commissions charged to regular clients of the Fruit & Vegetable Section for year ending Sept., 1938

Send Your Consignments  
TO US

MELBOURNE & SYDNEY.



## FRUITERERS' HOURS IN N.S.W.

### Reduction Sought.

An effort is being made in Sydney to ensure that fruit shops are closed earlier than at present. The president and secretary of the N.S.W. Fruiterers' Association, Messrs. T. Bowers and T. Brabham, informed the Minister for Labor (Mr. Knight) that many Italians kept their shops open from 80 to 90 hours a week and paid their employees low wages. As a result, Australians had to keep their shops open late, often till 11.30 p.m. Decent wages and conditions should apply to the retail fruit trade.

## SYDNEY MARKETS NOTES.

### Markets Ball.

The Markets Ball is always one of the eagerly awaited social events of the Sydney Markets area, and the function this year was even more successful than previous ones. July 18 was the date, and Mark Foy's Empress Ballroom the scene of this year's revel, at which some 550 dancers attended. A lucky dip was organised in aid of the Markets Fund of Practical Appreciation (which is affiliated with the Markets Industries War Fund), and the Fund benefited considerably from this effort.

The Producers Distributing Society, Sydney, organised another very successful Ball in Mark Foy's on June 18. Some 570 guests were present, and the proceeds, intact, were handed to the Benevolent Society of N.S.W. The officers of the Committee responsible for such a successful function were:—N. J. Gardner, President; Hon. Organiser, W. Rodrick; J. Kane, Secretary, by whose efforts the handsome cheque of £64/15/5 was made available.

Magistrate: "As regards the eight-day clock, my decision is that the plaintiff gets the clock."

Defendant: "And what about me?"  
Magistrate: "You get the eight days."

## Fruit Merchants and Exporters of South Australia

Growers! Consign your Fruit to

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Wholesale Fruit and Produce Merchant, General Exporter, Commission Agent, Shipping Provider.

Specialty Overseas Export All Countries.

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Phone C 746. G.P.O. Box 722  
Telegrams: Austin Fruit.

## CITRUS NEWS AND NOTES.

### The Fruit Fly Problem in N.S.W.

#### Control Measures Described.

Problems exist in N.S.W. because of continued attacks by the Queensland Fruit Fly.

In addition to attacking citrus fruits, the pest has caused losses with Passionfruit, Tomatoes, and other fruits. This subject is dealt with in the "N.S.W. Agricultural Gazette," and the following is stated:—

#### The Control Campaign.

The Queensland Fruit Fly population was sufficiently large to constitute a menace to the main Navel Orange crop, which commences to color in April. In view of the possibility of additional losses, control campaigns were undertaken in some districts, using foliage poison sprays as the chief method of control.

The foliage poison spray employed consisted of:—Sodium fluosilicate 2 oz., white sugar 2½ lb., water 4 gallons. During the early period of spraying the bulk of the work was done by splashing the bait on to the trees with a brush. Later power pumps were used, and this equipment allowed of satisfactory and expeditious treatment of large numbers of trees. Under the conditions existing at this time it was estimated that the cost for materials and labor for a single application of spray did not exceed 2/- per acre.

Losses from Fruit Fly varied greatly in the different orchards, and towards the end of February when the majority of the Valencias were harvested, infestations of hitherto clean orchards became apparent. In some instances where little or no attempt at spraying was made, the losses were considerable.

The results of the spraying campaign appeared to be satisfactory, and losses in the main crop Navels were kept to a minimum.

Where spraying was carried out consistently, little stinging of the fruits occurred, and a large proportion of the Navel crop was of good quality. The losses were further minimised by the limited development of either mould or maggots during the later part of the season.

## QUEENSLAND.

Sectional Group Committees of the Committee of Direction of Fruit Marketing, Queensland, are due to meet in August as follows: Citrus, 20th; other fruits, 22nd; Banana, 26th; Pineapple, 27th; Deciduous, 28th.



## CITRUS IN VICTORIA.

Mr. J. L. Provan, B.Agr.Sc., Senior Horticultural Instructor, Vic. Dept. of Agriculture, writes as follows:—

Citrus harvesting will be continued throughout this month. Washington Navel Oranges, particularly, as their maturity increases, become more susceptible to mould development, and therefore very careful handling and the maintenance of hygienic conditions in the orchard and packing house are necessary. Picking bags, lug or sweat boxes, and graders should be kept as clean as possible. When packing, care should be observed to prevent excessive abrasion against the rough sides of the cases and squeezing and cutting in the lidding operation. Dressed

timber on the inside of the case and careful handling of the lidding press will assist in reducing mould incidence in the fruit when it reaches market. Do not allow mouldy Oranges to remain in the packing house.

It is likely that a more vigorous campaign for the re-working of many undesirable varieties of Apples and Pears will become necessary, and growers are advised to collect scions of the popular varieties while the trees are still dormant.

"I've had to keep that car in the garage ever since the day I bought it from you. The thing won't go."

"Well, sir, you remember you said you wanted a car that wouldn't use much gasoline."

## SHELTER BELTS

Around HOMESTEADS and in loose WINDSWEPT PADDOCKS

### RADIATA PINE

is an ideal shelter tree, being densely branched to the ground. On the boundaries of ORCHARDS a belt of one line of pines is a great protection in exposed situations.

#### WHEN TO PLANT? — NOW

Trees from nursery stock must be planted out NOT Later than September. PLANT IN TWO OR THREE ROWS 12 TO 15 FEET APART. STRONG SEEDLINGS ARE OFFERED TO LANDOWNERS:—

£ - 15 - per 100	Cash
£3-2-6 per 500	With
£5-15-0 per 1000	Order

Free on Rail, Dartmoor, Victoria.

Name clearly the Railway Station for delivery.

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AND 440 LITTLE COLLINS STREET, MELBOURNE.

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# MURRAY BROS



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SECTIONS 5, 41, & 42 ROMA ST., MARKETS



## The Pig Pen

### LICE ON PIGS.

**C**ONTROL of lice on pigs in general, and on small pigs in particular, has always presented difficulties to farmers raising pigs. Application of oil to the coat of the pig is undoubtedly the most effective method of killing lice, but the difficulty in the past has been to devise an effective method of application. Brushing by hand and the use of oiling-posts are the methods generally recommended. Both have obvious disadvantages.

To be effective the method adopted must demonstrate that it ensures (1) economy in quantity of oil used; (2) economy in time and labor required; (3) ease of application to all types of pigs ranging from suckers on dam to fractious mature boars.

### Essential Requirements.

At the same time the oil, or oil mixture, used must be easily available in supply, reasonably cheap in cost, capable of spreading quickly and evenly over the skin, leaving no suggestion of stickiness on the hair, and pleasant in smell.

The method now in use at Hawkesbury Agricultural College goes a long way towards achieving the foregoing requirements. An emulsified neatsfoot oil, diluted with twice its quantity of water, is used. The emulsification and addition of water not only lead to economy in the quantity of oil used, but also increase its spreadability.

### Use a Spray Pump.

Ease of application is achieved by the use of a spray pump with a fine nozzle through which the oil mixture or emulsion is sprayed on to the pigs. The use of the spray pump makes it possible to oil small pigs or mature breeders quickly and easily.

There are many types of spray pumps which can be used, ranging from those with knapsack container attached and designed for spraying fruit trees, to the small brass pumps with pint containers used in housefly control. The initial cost of the pump is very soon covered by the marked saving in time and labor.

Emulsification is carried out by dissolving two teaspoonfuls of washing soda (or four teaspoonfuls of soap powder) in two quarts of water and then stirring the solution into a quart of neatsfoot oil. Emulsification takes place at once, producing a white milky fluid.—G. M. D. Carse, H.D.D., Piggery Instructor, Hawkesbury Agricultural College, N.S.W.

Doctor: "Can you feel any 'change' since you came back from the seaside?"

Patient: "Not a penny."

## Poultry Notes

### MANAGEMENT OF DUCKS.

**D**UCK RAISING can be conducted successfully in a small way either as a side line or as an adjunct to other branches of poultry farming, but on a large scale it is a business requiring capital and wide experience. A small flock kept under ideal conditions would be the best to commence with, as the beginner must start in a small way and extend as he gains in experience.

A suitable site for a Duck farm is a gentle, easterly or north-easterly slope with light, sandy soil, and there should be land sufficient for the growth of green food. Shade is essential and the birds should be protected from the cold winds. The Ducks should be bedded down with sawdust, straw or other litter during the laying season so as to keep the eggs clean. Ducks lay their eggs early in the morning, and if they should therefore be kept confined to their houses or pens until 9 or 10 a.m. all the eggs will then be laid in the houses. They begin to lay when between five and five and a half months old. Ducks and fowls should not be run together.

In handling the birds, pick them up by the neck rather than by the legs, as the latter are apt to break easily. Cleanliness and strict attention to detail are necessary to complete success.

### MATING AND BREEDING POULTRY.

Care in the selection and mating of breeding stock has produced strains of birds within many of our breeds that possess an inherent ability to produce a goodly number of eggs during the Winter period. Some of these individuals have this capacity for Winter egg yield much more consistently than do others, and it is the poultry farmer's job to spot these Winter layers.

Sometimes the male bird will have nothing to do with one particular hen, with the result that her eggs are all infertile. This may not be her fault, and if she is mated with another bird results may be excellent.

If it is impossible to keep all ages separate, one lot or the other should be leg banded so they can be distinguished at a glance.

### MAIZE FOR POULTRY.

Poultry farmers would be well advised to consider the inclusion of a greater quantity of grain in the afternoon feed, the Poultry Expert of the Department of Agriculture declares.

Maize would assist in the improvement of egg quality, and in the health of the birds. Previously the high cost of Maize has restricted its use.

If small grain is obtainable, it can be given whole; large varieties should be cracked to induce the birds to eat it. Fears that the feeding of Maize will fatten birds, or cause overheating, can be dispelled; experience proves that Maize can be fed in any season to the extent of 50 per cent. or more without any ill effects.

For chickens the kibbled grain could be included in a grain "chicken mixture," and the meal in the mash to the extent of 10 to 15 per cent.

A suitable chicken mixture is as follows:—

Kibbled Wheat . . . . .	55 lb.
Kibbled Maize . . . . .	33 lb.
Hulled or Skinless Oats . . . . .	12 lb.
	100 lb.

### GRATED VEGETABLES FOR CHICKS AND DUCKLINGS.

From Cape Province comes a hint to give young chickens and ducklings grated fresh vegetables direct from the fields. Grated Carrots, Beetroot, Turnips and young Cucumbers, three times a day, just in between their usual feeds, is excellent.

Do not use tough or wilted vegetables.



## HOME NOTES

### A JEWELLERY HINT.

When rings, brooches or any jewellery that is set with stones require cleaning, care must be taken not to loosen the stones in their setting. Small trinkets may be soaked for a few minutes in an egg cup half full of eau de Cologne. Larger ones may be laid in a saucer while eau de Cologne is freely applied to them with a soft camel hair brush.

### FOR DAMP WALLS.

If you find that damp patch on the wall persistently ruins your wallpaper, try this tip. Obtain some tar paper (which is black one side and brown the other) from a decorator, remove the damp wallpaper, and paste a piece of tar paper over the patch. The black side should be against the wall. Then cover this with fresh wallpaper and you will never be troubled again.

### HELPING SILK STOCKINGS.

Trifling things can damage delicate silk stockings, and in view of the possibility of supplies decreasing, care should be taken with present stocks. Do not throw stockings carelessly into a drawer or on to a chair that may have a snag—stockings run easily. Manufacturers advise against wearing light sheer stockings with brogue shoes; use heavier weights for heavy shoes.

Before wearing new silk stockings, they should be rinsed in lukewarm water and dried in the shade, not before a fire or under hot sun. They should be washed after each wearing to increase the life of the stockings; perspiration left in them will make them rot quickly.

### FOOL THE YOUNGSTER.

Young children do not take kindly to vegetable dishes. Mothers are beginning to recognise the value of the liquid from vegetables, which used to be thrown away, and to make it popular with the youngsters the following excusable method is suggested. When cooked, remove the vegetables and thicken the liquid with corn-flour mixed with milk, add butter, mash the vegetables and pour over the sauce. Children will accept this subterfuge with delight.

### SPECIAL NOTICE TO FRUITGROWERS

In response to numerous requests from growers for information as to who are members of the **WHOLESALE FRUIT MERCHANTS' ASSOCIATION OF VICTORIA**, the following list is given. All are members of the above Association, and are registered firms carrying on business in the WHOLESALE FRUIT MARKET, MELBOURNE. (All Members under Fidelity Bond)

<b>T. STOTT &amp; SONS PTY. LTD.</b> (26-36).	<b>E. CORNISH &amp; SONS</b> (5).
<b>H. L. E. LOVETT &amp; CO. (23).</b>	<b>J. HYMAN &amp; SON</b> (51).
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<b>W. S. TONG</b> (31).	<b>GEO. LISTER PTY. LTD.</b> (12).
<b>SILK BROS. PTY. LTD.</b> (24-25).	<b>TIM YOUNG &amp; CO. PTY. LTD.</b> (18).
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Correspondence is invited by the Association.

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# TASMANIA

SEASONAL CULTURAL WORK — NEW EVAPORATOR EXPECTED IN NORTH — PROGRESS IN CANNING AND DRYING — SHORTAGE OF MANURES — ACQUISITION PLAN DEFENDED — IMPROVED SYDNEY MARKET PRICES.

(By Our Correspondent.)

**S**EASONAL work is well advanced in the northern districts; in many orchards pruning is almost finished. Recent rains have been quite sufficient to give the sub-soil a thorough wetting in most localities.

I understand that the Tas. Orchardists Co-op. is contemplating putting up an evaporator in the Tamar district, which at present has none.

There have been some very severe frosts this Winter.

In southern districts many of the orchards are ploughed, and pruning is well advanced. Rain-

fall of late has been quite sufficient.

All factories, both canning and drying, are still working full time, and will continue to do so as long as the Apples remain fit for the purpose.

The Sydney market appears to have improved considerably the last few weeks, and should remain firm for the rest of the season now supplies are being drawn almost entirely from cool stores.

The Potato market remains low, but chaff is between £7 and £8 per ton, there being a big demand owing to the unfavor-

able conditions for growth during the Autumn. The stock is looking better than might have been expected.

Tasmania is expected to increase the area under Flax this year to about 15,000 acres, that is, nearly double last year's planting.

Political activity is beginning to re-awaken in anticipation of the State Government Election, which is expected next February.

The shortage of manures and the increased price of them is causing a lot of worry to growers of all crops, and will no doubt have an influence on next season's crops and cost of production.

The State Marketing Committee appears to have got most of the second half of the progress payments distributed, and it is to be hoped will give growers a final settlement in the near future.

## The Acquisition Plan.

I notice your correspondent, Mr. H. K. Chapman (Kelso, N.S.W.), rather objects to my inability to believe that the average grower in N.S.W. ever realised a price equal to the prices paid by the Government this season, and quotes what a few growers in Orange and Bathurst used to receive for their fruit, but does he think that under the altered conditions now existing he would get anything like the prices he mentions on a market over-supplied owing to lack of control.

My fairly intimate knowledge of the Sydney market would lead me to doubt it. I know that a lot of N.S.W. fruit is by no means up to a high standard, and the prices Mr. Chapman quotes are not the average for N.S.W., yet all N.S.W. fruit receives a much higher compensation than the other States.

I am quite aware that there are anomalies and individual injustices, also that some very strange things have been done by the Marketing Board, but without some control the glut prices would be even lower than those paid under acquisition, in which case the "high cost low production" areas such as Bathurst would get hit very hard.

I can sympathise sincerely with your correspondent, but I can't see that killing acquisition is going to improve the position while present conditions continue.

It is to be hoped that the Government will finish their unseemly wrangling in time to let us know what they intend to do about the 1942 crop.

I think the article in the July issue of this paper by Mr. James Clark, of Cygnet, Tas., makes some useful suggestions and is worthy of further consideration and elaboration of details. Something must be done to maintain such an important industry till normal times return.

The Tasmanian State Fruit Board is apparently willing to co-operate in a hail insurance scheme provided the details can be arranged equitably. As a rule Tasmania is not particularly subject to hail damage.

## Apples for Schools.

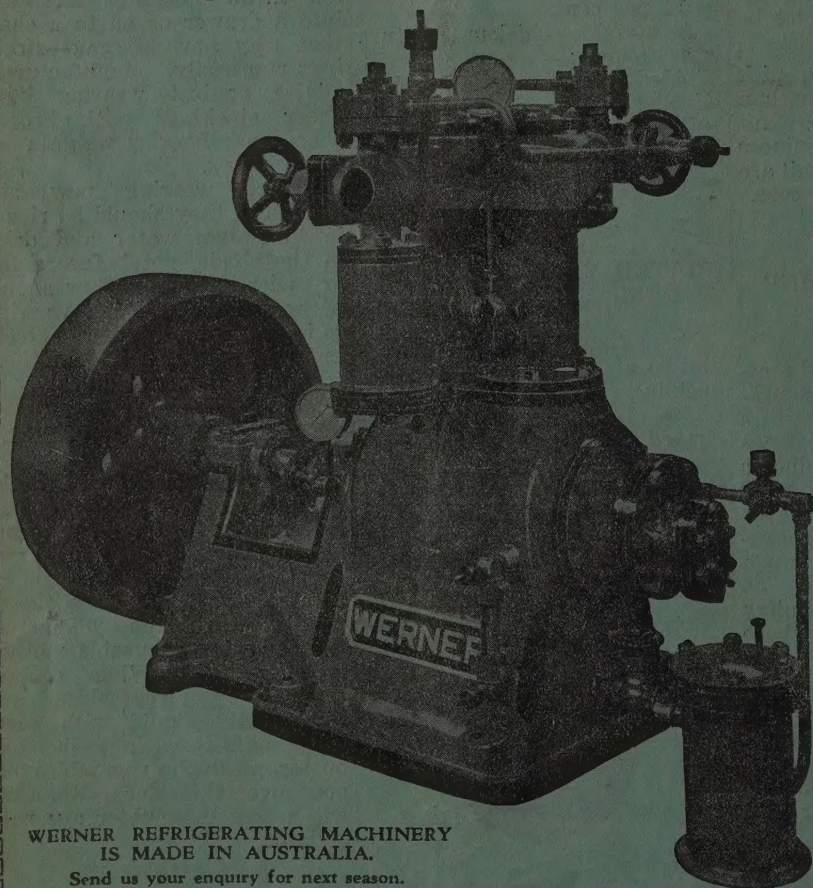
The Minister for Education (Mr. Cosgrove) denied a recent allegation that inferior Apples were being given to children under the State's distribution plan. The Minister stated that over 500 schools had been receiving Apples regularly, and much appreciation had been expressed. In one or two instances the schools had failed to take delivery from railway stations, and in these cases the fruit had deteriorated.

The school distribution system ceased in mid-July. For the past three months there has been a daily distribution to every school in Tasmania.

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